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SOME PHASES OF REJUVENATION*

WILLIAM T. BELFIELD, M.D.

CHICAGO

The fact that castration of the immature mammal prevents the full development of the secondary sex features is the basis for the prevalent belief that the gonads are the sole source of these features; and, indirectly, for the exploitation of so-called rejuvenation by the transplantation of gonads.

That the gonads do not produce the secondary sex features is shown by several facts, two of which seem worthy of mention here: 1. The complete sex features of mind and body, including the external genitals, have been exhibited by persons congenitally devoid of gonads, as proved by necropsy. 2. The sex features, including the external genitals of one sex, have been exhibited by persons congenitally devoid of gonads normal to that sex, but possessing the gonads normal to the other sex (Figs. 1 and 2).

There is, then, a force independent of the gonads which enters into the determination of sex features. Such force, it is generally known, has been associated with the chromatin threads and chromosomes of the cell nucleus of sperm and of ovum. It is proved for many animals that there is a structural basis for sex; that every cell in the body of a female fly, for instance, is distinguished from every cell in the male of the species, in that the former contains a greater number of chromosomes; that this number is determined for the new being at the time of the union of sperm and ovum (Fig. 3); hence at the time of fertilization it is foreordained, conditionally, that the egg will produce the secondary sex characters as well as ovaries or testes; hence that failure to develop the gonads need not prevent the formation of other sex features. It would seem, then, not that a woman is a woman because she has ovaries, as we are accustomed to say; rather, she has ovaries because she is a woman.

Yet influences other than the number of chromosomes enter into the determination of sex at the time of fertilization; quality as well as quantity of chromatin reveals itself. Thus, when Japanese and European gipsy moths are mated, there is an excess of male descendants when the male parent is Japanese, of females when the female parent is Japanese. The latter is called the "stronger" strain genetically; that is, it has a sex-determining influence other than the number of chromosomes. When the fertilization of eggs of frogs or trout is delayed, the ratio of males to females steadily increases with each day of delay; apparently, overripe eggs are incapable of producing females.

Hence, in the number of chromosomes of the united sperm and ovum we recognize, not the immutable determination of the sex of the new being, but rather a distinct impulse toward the building of one or the other sex; an impulse that must seemingly be transmitted, as is the distinctive chromosomal structure, to every cell in the body; an impulse which early becomes manifest through the instrumentality of the endocrine glands, including the gonads.

FERTILIZED EGG AS THE ARCHITECT OF SEX STRUCTURES

This recognition of the fertilized egg as the fundamental factor in sex is essential; it elucidates the otherwise puzzling fact that there is no group of sex features exclusively associated with testis or ovary; and other facts—including possibly homosexuality—inexplicable on the prevalent assumption that sex features emanate from gonads. The complete sex features of man or woman congenitally devoid of gonads, or even possessing the gonads of the other sex; the masculine behavior, including copulation with females and fighting with males, observed in some animals castrated a few days after birth; hens possessing the comb and wattles, even the partial plumage of the cock, yet living a hen's life, laying eggs and nesting, and discovered post mortem to have normal ovaries (Fig. 4)—such phenomena become intelligible when it is recognized that the architect of sex is the fertilized egg; that the gonads, like the thyroid and other tissues, are merely builders of the structure already planned. Defects in the plan, mistakes in the execution thereof, result in these sex anomalies, which obviously cannot be ascribed to the gonads.

Defective plans are sometimes manifest in structures deviating from the human type that cannot be explained by human embryology, but which are clearly features of earlier animals in the vertebrate phylum—the so-called arrests of phylogenetic development. Eight rudimentary mammae in an otherwise typical young man must be so explained. Human epispadias is a partial revival of the type normal to reptiles and early mammals (Figs. 5 and 6). Abdominal testes, normal in early mammals, are especially frequent in psychically undeveloped children (42 per cent. of 285 subnormals examined by Aronowich). Such defects in the plan may affect only details of structure; male and female sex features may appear in different parts of the same animal. Familiar in insects, this phenomenon is exhibited also by birds, one side showing hen-feathering without a spur, the other side cock-feathering with a spur; or the anterior part of the animal showing the

* President's address, read before the Institute of Medicine of Chicago, Dec. 4, 1923

comb and wattles of the cock, the posterior the tail and spurless legs of the hen (Fig. 4). Bond describes the coexistence of male and female markings even on opposite sides of the same feather; also female markings at the proximal ends only of a cock-pheasant's tail feathers. Such anomalies cannot be plausibly explained by the circulation in the blood of any substance, hormone or other; hence they cannot be ascribed to endocrine glands, gonads or other. There is proof that every cell in the adult body inherits its distinctive male or female chromosome structure from the fertilized egg; and there is experimental proof that the prolonged administration of alcohol to parent animals causes in their progeny anomalies of structure, sexual as well as somatic, which must be ascribed to intoxication of sperm and ovum. Such facts as these warrant the inference that the fertilized egg is the architect of sex characters, normal as well as anomalous.

Fig. 1.—Man, aged 47, with normal masculine sexuality; penis of typical structure, smaller than the average. (After Neugebauer.)

ENDOCRINE GLANDS AND CRANIAL GANGLIONS AS SEX BUILDERS

The demonstrated difference in cell structure between male and female suggests the possibility that every cell in the body may contribute toward maleness or femaleness; as yet, however, only endocrine glands, including gonads, and cranial ganglions have been proved to make and unmake sex characters.

The suprarenal cortex, for example, which arises in the same matrix with the gonads, is differentiated earlier than they are, and in midgestation is larger than the gonad or even than the kidney; throughout life it is distinctly larger and heavier in the male guinea-pig than in the female of equal weight (Moore). Hyperplasia or neoplasm of the cortex induces precocious sex features in boys, and inhibits ovulation in women. In many instances, women, previously normally feminine, have ceased menstruating before the twentieth year, when a growth of hair has appeared over face and body, and an abdominal tumor was discovered; by operation or necropsy, this was found to consist of suprarenal cortex tissue. In those young women who have survived the extirpation of such a tumor, menstruation has been reestablished and the surplus hair has vanished, thus completing the proof that the arrest of ovulation and the abnormal hirsuties were due to excess of suprarenal cortex. A full beard and hypertrophied clitoris, with a suprarenal tumor but without testes, has been observed in girls at 3, 2 and 1 year of age, even at birth.

It is noteworthy that such abnormal hirsuties may follow the destruction of the ovaries by cystic disease (Fig. 7), possibly because the suprarenal cortex is in relative excess after the antagonistic ovarian secretion ceases. In other women, menstruation has ceased before the twentieth year, but no abnormal hirsuties or other peculiarities have been noted; they were merely instances of premature menopause. Necropsy, years later, has disclosed no malformation except marked hyperplasia of the suprarenals. Such observations show that the suprarenal cortex is essential to the building and maintenance of the male sex characters at least; constructive for maleness and, when in excess, destructive to femaleness

Ten years ago we believed that atrophy of the testes, polyuria and adiposity—the Froehlich syndrome—were the inevitable results of destruction of the pituitary gland. Recently, Brown of the Carlson laboratory has presented dogs from which he had removed the entire pituitary without entailing testicular atrophy or any other change; in certain other dogs operated on, in which such symptoms appeared, it was found post mortem that the operation had injured structures at the floor of the third ventricle, corpora albicantia or others. Brown's work indicates that the function of the gonads requires integrity of certain ganglions at the base of the brain, which may be compressed through tumor formation of the pituitary; and that atrophy of the testes may be due to pressure on them rather than to pituitary disease.

It has long been known that, in boys presenting precocious puberty, including full development of the penis and sperm-producing testes at from 3 to 7 years of age, necropsy has sometimes revealed a tumor of the pineal gland. These tumors are not adenomas or carcinomas (Krabbe), which might be supposed to furnish excessive pineal secretion, but teratomas, which are not known to produce a specific secretion. Hence the effect cannot be ascribed to excessive internal secretion of the pineal, but rather to compression of ganglions at the floor of the fourth ventricle through its enlargement. It is notable that the association of a pineal tumor with precocious puberty has been observed only in males. Diabetes insipidus has been relieved by spinal puncture, the only curative effect of which measure seems to be reduction of intracranial pressure.

Thirteen years ago I presented a brief report of a man, aged 42, who, twelve years earlier, had suffered

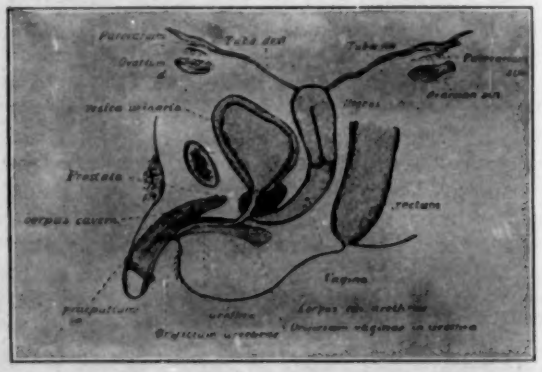

Fig. 2.—Internal sex organs of man pictured in Figure 1; ovaries, tubes, uterus and vagina emptying into posterior urethra (utricle); prostate gland; suprarenal cortices (not portrayed), about five times as large as normal; no testes. (After Neugebauer, who compiled reports of thirteen men so constructed.)

from what the late Dr. Christian Fenger pronounced "syphilitic basal meningitis," and who recovered under antisyphilitic treatment. Immediately after this illness his heavy beard and body hair completely vanished, the testes atrophied, the erectile power disappeared, and he developed polyuria. Such was his condition when he came to me—normal in all somatic features, with luxuriant scalp hair, but with not a hair visible below the eyelashes, and completely impotent; though there was no adiposity and no compression symptoms, the sella

turcica was roentgenographed, with normal findings. Since then I have seen six other men presenting the same picture in minor degree, all infected with syphilis. There has been no necropsy, and hence no anatomic diagnosis; symptoms suggest injury to the basal ganglions. At least this is a hitherto undescribed clinical type, marked by atrophy of testes, polyuria and loss of beard and body hair, with no evidence of pituitary disease, past or present.

Such observations indicate that among the organs which influence structure and function of the testes

Fig. 3.—Fertilization of a nematode: Each somatic cell nucleus in the female contains twelve chromosomes; of the male, eleven chromosomes. The ovum nucleus (the upper in each figure) contains half the somatic number, or six chromosomes; the sperm nucleus in *a*, five; in *b*, six chromosomes. The union of ovum and sperm nuclei in *a*—six plus five, gives eleven chromosomes to the fertilized egg, the male characteristic; in *b*, six plus six gives twelve chromosomes, the female characteristic. (From Lillie's "Problems of Fertilization.")

must be included certain ganglions at the base of the brain.

TRANSITORY NATURE OF MAMMALIAN FEMALENESS

On the traditional conception that sex emanates from testis or ovary is based the idea that the two sex complexes are essentially antagonistic and immutable. The biologic conception of sex is, on the contrary, not that it comprises two antagonistic entities, but rather that it is a single entity presenting various—and variable—degrees of femininity. In Benda's words, "the primary anlage of the entire sexual system of the vertebrates must be regarded as female"; the unfertilized egg is a potential female whose deviation toward the male type is in essence a failure of potential development. There is no structure in the sex organs of the mammalian male—even the testis—which is not possessed, at least in rudiment, by the female; whereas the ovary has no homologue in the male (Fig. 8). There are known many instances in which the female—bird, quadruped or human—has matured normally, and later has assumed in marked degree the features and functions of the male; there is no instance known to me in which a mature male vertebrate has through intrinsic forces exhibited the corresponding change toward the female type; once a male, always a male; once a female, later a near-male, seems the natural course.

This mutation from female toward male characters has been observed at all periods from early fetal life to maturity. Forty years ago, Pflüger found that of 100 grass frogs caught in the spring, eighty-four were females as determined by their gonads, only sixteen males; while of another 100 caught in the fall, about half had ovaries and half testes. Investigation showed that in newly transformed frogs the ovary constitutes the greater part of the gonad; but with time the ovary gradually atrophies and the testicular portion develops in about half of them. In some the transmutation is incomplete, the gonad being a composite—an ovotestis.

The freemartin is born twin to a male calf and usually becomes an oxlike creature, indifferent sexually to cows and bulls alike. F. R. Lillie discovered that the freemartin fetus is at first a female possessing ovaries, tubes, uterus and vagina; that, as gestation progresses, all these organs undergo modification toward the male type in varying degree. He showed that this change of female into freemartin happens only when the twins are nourished by the same blood supply through anastomosis of their blood vessels; that when no such anastomosis exists, the female calf develops normally. Evidently something produced in the male fetus and circulating through the female transmutes the latter toward the male type.

Tadpoles commonly develop into male and female frogs in about equal number; but when tadpoles have received in their food suprarenal cortex tumors from human subjects, they have transformed almost exclusively into male frogs. A hen may begin life as an orderly female, laying eggs and nesting; later she may exhibit the behavior of the cock and develop more or less completely the masculine comb, wattles and plumage. Necropsy may show an ovotestis, the ovarian part atrophied, while the testicular tissues show activity, sometimes including sperm production (Fig. 4). Crew recently reported an instance in which the bird was an egg-laying hen until 3½ years old, when she was transformed in successive moltings into a cock, and fertilized a young hen from whose eggs chicks were raised. Post mortem, the transformed bird was found extensively tuberculous, by which infection the ovary had been destroyed; and this had been replaced by a testis producing sperms.[1] The intersexual or composite g o n a d — ovotestis — is found also in female mammals—mole, goat, pig, dog and woman (Fig. 9); and the actual transformation from female toward male features, from ovary toward testis, has been observed in young women; such ovotestes are probably not rare in the human subject—three are reported by one observer—but have been until recently rarely looked for.

Fig. 4. — Bird above shows comb and wattles of cock, tail and spurless legs of hen; bird in middle, transformed hen with one sperm-producing testis, and an atrophied ovary, with one corpus luteum; bird below, ovary, no testes. (From Boring and Pearl.)

Such transmutation of females toward maleness, apparently anomalous, is such only in degree; for in all warm-blooded species the heavy burden of reproduction imposed on the female is transitory; and cessation of ovulation is often accompanied by some exchange of feminine for masculine features. The change in plumage toward the cock and the growth of spurs in old hens are familiar. Such change cannot be ascribed to testes, since these do not exist in those birds; moreover, the same changes may occur in young hens after castration.

1. Since this was written, a similar transformation of a female into a male pigeon has been reported by Riddle.

INFLUENCE OF GONADS ON SEX CHARACTERS

Despite the wealth of pertinent observations, clinical and experimental, the influence of gonads on sex characters is not yet exactly defined. Until forty years ago, the gonad was held responsible for all sex features; later it was learned that such features could not develop without a functioning thyroid at least; recently, that the basis of sex features exists in the egg; hence the evalution of the gonad is still incomplete.

Fig. 5.—Human epispadias; seminal gutter, miscalled urethra, on surface of corpora cavernosa, as in reptiles and early mammals; no urethra. (From Demarquay.)

Certain observations are significant:

1. The sex characters of the mature female have been replaced through natural causes by those of the male, even an ovary by a testis; the corresponding mutation of male toward female is as yet unknown.

2. Such mutation of sex features may occur normally in elderly females and, after castration, in young ones, but not in males.

3. Castration before maturity regularly prevents the sex behavior normal to the mature female, but often leaves the male distinctly masculine in behavior, even potent for many years.

4. As Moore has shown, the male guinea-pig whose testes are removed a few days after birth and replaced by ovaries from a sister pig shows no feminine features in maturity except a pronounced enlargement of the teats. None of these animals exhibit feminine behavior; they even fight off suckling young that attempt to seize the teats; some, indeed, show normal masculine behavior, mounting females and fighting males. On the other hand, the sister guinea-pig whose ovaries have been replaced by testes exhibits completely masculine behavior toward both females and males, and develops hypertrophy of the clitoris.

5. The maleness of a mammal is essentialy that of all earlier animals, namely, the production and emission of sperms, which may continue throughout life; while mammalian femaleness—the prolonged nurture of embryos through placental union—is an innovation so recent that it does not occur even in early mammals, and ceases in middle life.

6. It is established that hypernephroma, which occurs in both sexes and hence is not a product of the ovary, causes even in girls arrest of ovulation, atrophy of the ovary, hypertrophy of the clitoris, and a full beard—the most complete transmutation toward masculinity known in woman, far exceeding that which follows castration or the menopause. Evidently somatic forces extrinsic to the ovary can destroy femaleness, and at the same time create male characters. A corresponding sex reversal from male to female is unknown. That a gradual extinction of femaleness by somatic influences is a normal process beginning in youth is indicated by Brody's observation that the number of eggs laid by the average hen each year is about 88 per cent. of the number laid the previous year, ovulation ceasing in about eight years.

Such premises offer but little hope that the transplantation of another woman's ovary would restore menstruation in a woman past the menopause; and in actual experience such transplantation, even of ovaries from young women, has in hundreds of cases invariably failed to produce ovulation in the recipient. Indeed, the only material as yet known to reestablish menstruation, and then only in a young woman, is her own ovary—autotransplantation. In the majority of young women so treated, several months of amenorrhea were followed by regular menstruation for one, two, but never more than three, years. Rejuvenation of elderly women by transplants from other women, therefore, is as yet unknown.

Homotransplantation of the human testis should, on biologic data, be more promising than that of the ovary; for these data indicate that the somatic tissues, inherited through the fertilized egg from the entire vertebrate phylum, are in harmony with the ancient maleness, but not with the new femaleness of the placental animals—that they are homologous with the testis but heterologous toward the ovary. And since, for the structure and maintenance of sex characters, somatic tissues—the endocrines at least—are as essential as are the gonads, the male castrated before maturity may develop partial maleness, thanks to his somatic tissues, while the spayed young female lapses, thanks to those tissues, from femaleness toward maleness. Hence it seems possible, *a priori*, that a testis transplanted into an otherwise normal young man deprived of the testes might reinforce the maleness of the host's somatic tissues, even though the ovarian transplant into the female fails to do so. However, experience in the transfusion of blood has revealed inexplicable incompatibilities between the bloods of two persons; a testis transplant broadcasting on 500 meters must fail to harmonize with a host's tissues attuned for 300 meters.

Fig. 6.—Reptilian penis, cloaca opened; *ph*, penis; *r*, seminal gutter on its surface; *R*, rectum (From Gegenbaur.)

STEINACH'S METHOD OF REJUVENATION

Of the two currently exploited methods of rejuvenation, that sponsored by the Vienna physiologist Steinach merits little attention; for it is founded on error and refuted by experience. Steinach's method rests on the allegation that occlusion of the epididymis or the vas deferens causes atrophy of the spermatic tubules. This statement has been proved erroneous for animals by various experimenters (Moore, Oslund), and is absolutely refuted for the human sub-

ject by the experience of scores of surgeons in performing Martin's operation for the cure of sterility due to occlusion of the epididymis by gonorrheal or other infection thereof. Since this operation is futile unless sperms exist in the head of the epididymis, the operator's first care is to determine their presence. In a large majority of subjects sperms have been found there, even from five to seventeen years after the occluding epididymitis occurred; in these cases, therefore, atrophy of the spermatic tubules had not occurred.

With this demonstration, Steinach's theory of rejuvenation, for men at least, falls to the ground. Yet this would be a minor matter if the promised clinical results were achieved. Now it so happened that, about twenty-five years ago, surgeons the world over began making vasectomy for the relief of the symptoms consequent on senile hypertrophy of the prostate; and they have continued the practice ever since. Hundreds of cases were reported by surgeons in the medical journals of that day; yet no rejuvenation was observed.

REJUVENATION BY TESTIS IMPLANTATION

Rejuvenation of elderly men by testis implantation is generally interpreted as the restoration, not of vanished

Fig. 7.—Normal menstruating girl at 16; at right, same girl at 19, with full beard; no menstruation for two years; necropsy, multilocular cystoma of ovary. (From Alberti.)

teeth, hair, smoothness of skin, or any other glory of youth except one—the ability to copulate. This interpretation is a corollary to the outgrown but still prevalent assumption that the gonad is the sole creator and regulator of sex features and functions. Yet it is well known that the mechanism of copulation is readily disarranged by various agencies that do not injure the testes—disease of prostate and vesicles, syphilis of the spinal cord or its covering, diabetes—which cannot be cured by adding more testis to normal testis; as well as by lesions of the thyroid, suprarenal or cranial ganglions. Yet implantation has been advised, even performed, for the relief of impotence which was later demonstrated to be due to tabes dorsalis.

The experimental work of careful investigators seems to have established these results on animals: Testis transplantation succeeds often in young, rarely in old, animals; success meaning merely the maintenance of vitality for a period of months. Though the transplant never produces sperms in its new host, it may function to the extent of preserving the masculinity of a castrated young male for a limited time, or of causing in a spayed young female hypertrophy of the clitoris and distinctly masculine behavior. The life of the transplant is much shorter than that of the native testis; within a few months its elements are replaced by connective tissue, and its physiologic effect on its host ceases.

In a few young men whose testes have been destroyed or removed, testis transplants seem to have pursued the same favorable course as in castrated young male animals, though only for a period of months. In old men, as in old animals, such results have not been witnessed.

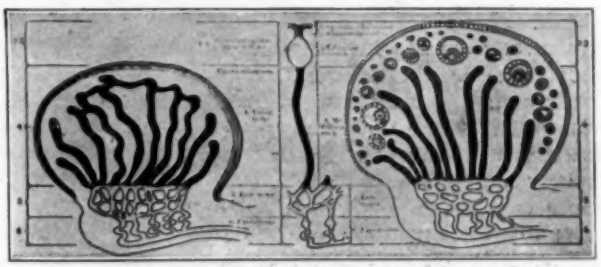

Fig. 8.—At right, ovary, comprising Pflüger's cords and medullary cords; at left, testis containing medullary cords only. (Diagrammatic, from Keibel and Mall.)

Stimulation of erection sometimes follows testis transplantation in old men, appearing within a few hours and ceasing within a few days. This is apparently the effect of preformed substances contained in the transplant and absorbed therefrom by the host's tissues. Similar effects have followed the injection of milk. A lasting recovery of lost erectile power in old men through testis transplantation is yet to be demonstrated.

Two items seem worthy of general attention: It has long been known that human testes retained in the abdomen never produce sperms; but, when transplanted to the scrotum before puberty, some of them develop spermatogenesis. It is also known that a dog's testis replaced from the scrotum into the abdomen ceases to produce sperms; but if restored to the scrotum within a few days it may resume spermatogenesis. The cause of this inhibition of sperm production in the abdomen has been recently demonstrated; it is the relatively high temperature of the abdominal cavity, which may be from 4 to 12 degrees Fahrenheit higher than that of the tunica vaginalis. Fukui showed that if both testes are

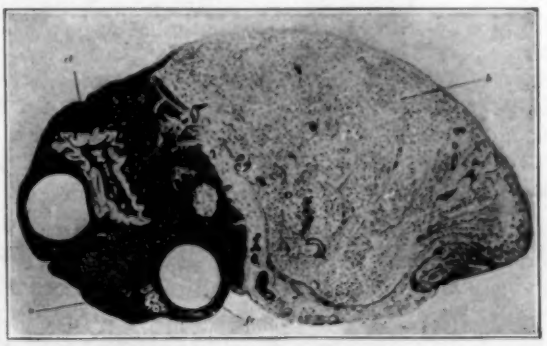

Fig. 9.—Gonad of pregnant mole: At left, ovary with typical follicles and corpus luteum; at right, spermatic tubules. (After Kohn.)

replaced in the dog's abdomen and one kept cool by the circulation of cold water, the cooled testis continues to produce sperms, and the other does not. Fukui ascribes the evolution of the scrotum to the necessity for removing the testes from the heat of the abdomen. It is notable that in some mammals the testes, abdominal during most of the year while no sperms are produced, descend into the scrotum and produce sperms when the

breeding season begins. Moore shows that testis material of one animal transplanted to the testis of another within the scrotum often produces sperms, a function never preserved in testis transplantations elsewhere in the body. While it is true that the internal secretion of the testis is independent of spermatogenesis, yet it may be suspected that a testis which produced sperms in its original owner and fails to produce them in its new host may have lost some of its original powers. At any rate, the study of testis transplantation in man may develop a new phase through the work of Moore.

Although clinical cures of myxedema, tetany and Addison's disease have been reported through the transplantation of thyroid, parathyroid and suprarenals, respectively, yet the triumphs of substitution therapy have been achieved not by transplantation of living, but by ingestion or injection of dead tissues. Ott and Scott long ago showed that luteal extract injected into the circulation of virgin animals promptly caused a secretion of milk; Allen and Doisy report that follicular liquid from hog's ovaries, injected subcutaneously into spayed young mice and rats, produces typical estrual phenomena with growth of uterus and mammae, and the mating instinct; also precocious sexual maturity in the immature female. Epinephrin, pituitary extract and insulin derived from lower animals seem to produce constant effects in man, though the transplantation of the living glands from which they are derived has rarely produced a specific result.

The future of testis therapy seems to depend on the isolation of the activating substance produced in the testis corresponding to thyroxin or insulin—possibly this element of the ovary has been already found in the follicular liquid of the lower animals. Until this shall be accomplished, the injection of an emulsion of testis tissue seems the most promising form, though such a mixture of unknown proteins must be a tentative remedy.

CONCLUSION

Thyroid therapy, initiated merely for the relief of myxedema and cretinism, has revealed its benefits in diverse conditions never before associated with thyroid deficiency. It seems probable that gonad therapy also, begun as an irrational attempt at an impossible "rejuvenation," may emerge from the disrepute of its infancy, and develop into a valuable means for relieving ailments that are not now associated with gonad deficiency; for it is demonstrated that the gonad does not originate sex; that it is less essential to the maintenance of sex than is the thyroid or the suprarenal; and that it is indeed one of a chain of interacting endocrine glands, efficiency in every link of which is essential to normal function, sexual or somatic.

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MOVEMENT OF DIAPHRAGM WITH PATIENT IN LATERAL POSTURE

ITS INFLUENCE ON PHYSICAL SIGNS *

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In a previous communication,[1] attention was called to certain peculiarities in the percussion note over the back with the patient in the lateral position. The observations of Hoffbauer and Holzknecht[2] on the action of the diaphragm in this position were noted as bearing on the subject. Subsequently, some studies have been made with reference to the effect of this peculiar diaphragmatic action on other physical signs, particularly auscultation, in health and in disease.

It will be recalled that Hoffbauer and Holzknecht showed that when a person lies on the side, the diaphragm on the upper side tends to pull away from the chest wall and straighten out, losing something of its arch, while the diaphragm on the lower side is crowded cephalad by the abdominal viscera, which tend to slump toward the lower side. On contraction of the diaphragm, as in inspiration, the lower half of the diaphragm moves through a much greater distance in the process of straightening out the arch than does the upper half, which remains relatively quiet.

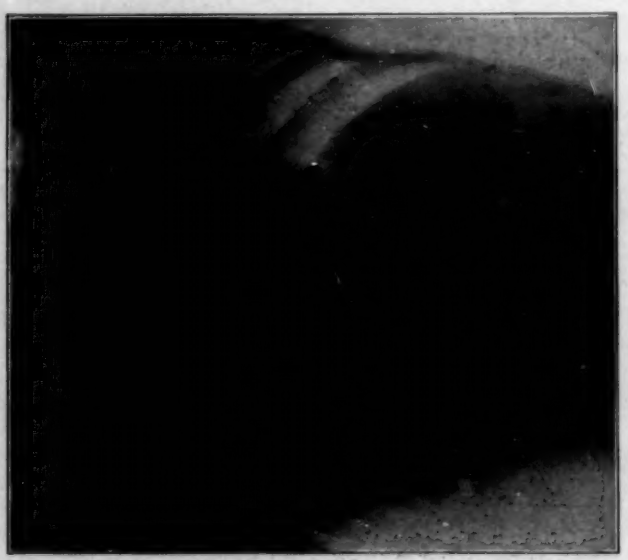

Fig. 1.—Patient on right side; at end of expiration; the height of the diaphragm on the lower side should be noted.

When one listens over the back of a patient in this position, it will be noted that the breath sounds are louder over the base of the lung on the down side than over a corresponding area on the opposite side. Indeed, with ordinary quiet breathing the breath sounds may be altogether inaudible on the upper side. The quality of the breath sounds is unchanged. The reason for the difference in volume of sound on the two sides is plain when one envisages what is going on within the chest—the increased diaphragmatic action on the lower side and diminished action on the upper side. Incidentally, this phenomenon may be considered as evidence that the vesicular murmur originates in the parenchyma of the lung, or at least in the finer bronchioles, and not in the larynx, as suggested by Bushnell.[3] The clinical importance in the difference in the volume of the sound over the two bases lies in the fact that the increased sound on the lower side is sometimes misinterpreted as signifying consolidation on that side, while the diminished or absent breath sounds on the upper side are sometimes

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1. Howard, Tasker: Percussion Note of the Back in the Lateral Position, J. A. M. A. 76: 1229 (April 30) 1921.

2. Hoffbauer and Holzknecht: Die Veränderungen des Standes und die Exkursionsbreite des Zwerchfelles in den verschiedenen Korperlagen, Mitt. a. d. Lab. f. radio. Diag. u. Therapie, Jena, 1907.

3. Bushnell, G. E.: The Mode of Production of the So-Called Vesicular Murmur of Respiration, J. A. M. A. 77: 2104 (Dec. 31) 1921.

supposed to indicate an early pneumonic infection or some pleural involvement.

It has been noted that the subcrepitant râles of atelectasis are much more frequently heard over the lower side than over the upper side. When the patient first turns to the lateral position, the lung having been more or less quiescent, the new position and action of the diaphragm tend to expand the lung on the lower side, with the production of crepitations with the first few inspirations. They are less numerous or absent over the upper side. Of course, they tend to disappear after the first few breaths, but they are sometimes erroneously assumed to have some pathologic significance.

On the other hand, râles that are associated with definite pathologic change, such as the fine râles of the congestive stage of pneumonia, or the moist râles of passive congestion, are heard best, and sometimes exclusively, on the down side.

It was once taught that a patient with pneumonia unconsciously lay on the affected side, the pain being less in this posture because the down side of the chest was splinted by the bed and put at rest. This is sometimes the case, but more often the opposite holds true. When the involvement approaches the diaphragm, the patient usually chooses to lie on the good side, particularly if he normally utilizes the diaphragm predominantly in breathing. Theoretically, more women would choose to lie on the affected side than men. I have not had an opportunity to investigate this point. When a patient with pneumonia of the lower lobe lies on the affected side, the chest is seen to heave with the additional effort of compensatory costal breathing, and when he rolls on to the other side, the chest is relatively quiet, the breathing being largely accomplished with the diaphragm, as can be determined by watching the abdomen. It is evident, then, that functional rest for the lower lobe is best secured posturally by having the patient lie with the affected side up.

Fig. 2.—Patient on right side; at end of inspiration; the former position of the diaphragm was ascertained by superimposing Figure 2 on Figure 1. One should note (1) the relative immobility of the diaphragm on the upper side; (2) its movement on the lower side, and (3) the relatively greater change in radiopacity over the base on the lower side, indicating a greater degree of lung expansion.

SUMMARY

The peculiar action of the diaphragm in the lateral posture is responsible for the fact that:

1. Breath sounds are louder over the down side.
2. Râles are heard best on the down side.
3. A lower lobe is most at rest when the patient lies on the opposite side.

46 Sidney Place.

Traumatic Neurosis.—In traumatic neurosis avoid such errors as deep diagnostic study, intensive treatment, approval of demand for large indemnities, and prolonged litigation.—Naegeli, O.: **Diagnostische und therapeutische Irrtümer und deren Verhütung, Leipzig 3, 1923.**

RHEUMATIC HEART DISEASE IN CHILDREN UNDER TWO YEARS OF AGE

REPORT OF THREE CASES *

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Rheumatic carditis in infancy is rare. Those who have reviewed the literature critically and who have analyzed their own cases carefully agree substantially with Still,[1] who wrote:

> Several cases of supposed rheumatism in infancy, from twelve hours old and upwards, have been recorded, a few well authenticated, others of very doubtful nature. Amongst 1,027 children with articular or cardiac rheumatism or with chorea, I have not seen a single case under two years of age, and I have seen only eight cases in which any of these rheumatic affections were present before the age of three years.

The proof of rheumatism as the etiologic factor in a heart lesion in infancy is very difficult to establish. Arthritis, which is so helpful in confirming a diagnosis of rheumatic carditis in later childhood, is unusual in infancy, and when it does occur it is more likely to be associated with pyemia, sepsis, gonorrhea, s y p h i l i s, scurvy or osteomyelitis.[2]

It seems worth while, therefore, to record three cases of rheumatic carditis in children under 2 years of age. The proof of their rheumatic origin rests on the finding of one of two pathognomonic signs of the rheumatic poison—Aschoff bodies in the heart muscle and subcutaneous fibroid nodules. Aschoff bodies are microscopic accumulations of large cells about the smaller blood vessels in the wall of the ventricle. Their significance has been emphasized by the studies of Thalhimer and Rothschild:[3]

> In rheumatic myocarditis, foci termed "submiliary nodules of Aschoff" are present which are characteristic of rheumatic infection. They are most frequently found in the walls of the left ventricle, the auricle usually escaping. The nodules were found in three cases of chorea without joint manifestations, proving the close relationship of this condition to rheumatism. They were absent in fourteen cases of subacute bacterial endocarditis due to *Streptococcus mitis*. They were not found in infections of the endocardium with the gonococcus, staphylococcus, streptococcus or pneumococcus. Even in the absence

*From the Pediatric Service, Mount Sinai Hospital.

1. Still, G. F.: Common Disorders and Diseases of Childhood, London, Oxford Medical Publications, 1909, p. 411.
2. Friedjung, writing in Pfaundler and Schlossmann's system, goes so far as to say that "cases of rheumatic arthritis published as occurring in infancy in association with endocarditis . . . are always dependent on gonorrhea, syphilis or pyemia, not on rheumatism." This point of view seems too extreme.
3. Thalhimer, W., and Rothschild, M. A.: J. Exper. Med. 19:417, 1914.

of a rheumatic history, we believe, in accordance with Fraenkel, that the presence of Aschoff bodies signifies a previous rheumatic infection.

Subcutaneous nodules are of almost equal importance in the certain diagnosis of rheumatism. Nodules in the skin possibly may have other significance among adults, but in children and particularly in infants, any origin other than rheumatic is hardly conceivable. Coombs [4] finds the subcutaneous nodule almost identical morphologically with Aschoff bodies ("cardiac nodules"):

> In fact, the subcutaneous nodule is to the cardiac nodule as the tuberculous mass is to the miliary tubercle . . . . In the synovial membrane of the shoulder joint from a fatal case of acute articular and cardiac rheumatism, inflammatory nodules were found absolutely similar in all essentials to those described as occurring in the heart.

In addition to their definitive value in confirming a diagnosis of rheumatism, they are also of prognostic importance. Cheadle,[5] and recently Bronson, Carr and Perkins,[6] expressed the opinion that the occurrence of crops of nodules indicates a "serious infection" that will end with severe damage to the heart or death.

REPORT OF CASES

Case 1.—B. S., a girl, aged 23 months, the apparent onset of whose illness occurred only five days prior to her death from cardiac failure, was admitted two days after becoming ill. There was no history of heart trouble or rheumatism in her family. Aside from the occurrence of chickenpox and measles, eight and four weeks, respectively, before admission, the previous history was unimportant. Until her mother noticed that she was restless and appeared to be ill, she had been playing with the other children and seemed quite well. She vomited several times, and the breathing was rapid, and was accompanied by short groans. The mother thought that she did not have fever. On admission, the patient seemed to be acutely ill and appeared anxious. She was cyanotic, and the breathing was difficult and grunting. The mouth and pharynx appeared normal, and the tonsils were hypertrophied. The heart was enlarged; the apex beat was felt in the fifth interspace 7 cm. from the midsternal line. A systolic thrill was felt at the apex, and there was a gallop rhythm. The heart sounds were rapid and of fair quality, and a soft systolic murmur at the apex was transmitted to the axilla and to the back. The liver, enlarged to the umbilicus, was tender. The bones and joints were negative, and no nodules could be found. The course was rapidly downward. The child became more dyspneic and cyanotic, and died forty-eight hours after admission. The temperature did not rise above 100. The hemoglobin was 45 per cent., the white blood count 20,000, and the blood culture was sterile.

Section of ventricle: *A*, Aschoff body.

Interest in the necropsy, which was conducted by Dr. Sachs, centers about the heart. The heart was enlarged, and a few superficial hemorrhagic areas were scattered over the visceral pericardium. The tricuspid, pulmonary and aortic valves were normal. The mitral valve was not narrowed; its edges were somewhat thickened, but there was no evidence of either past or present endocarditis. The left ventricle was hypertrophied; the muscle was flabby and showed tigering.

Microscopic examination of the heart muscle from the posterior wall of the left ventricle showed Aschoff bodies. A drawing of one of these bodies is reproduced here. The heart muscle was edematous, and occasional areas of degeneration with cellular infiltration were found.

Several points merit emphasis:

1. A rapid fulminating course (the patient was sick only five days) is not usually associated with rheumatism. Bass [7] has recorded a similar fulminating case. The child was under his observation prior to and during the final illness, so that the exact time of onset of the cardiac symptoms could be determined. The history was that of a "child of 3 years who had a tonsillitis, followed after one week by an eruption of erythema multiforme, and one week later by endocarditis with death from heart failure after four days." In the heart muscle of this patient also Aschoff bodies were found.

2. A review of the history, physical examination and necropsy findings indicates how futile would have been any attempt at complete diagnosis without the finding of Aschoff bodies in the heart. None of the conditions usually associated with rheumatic heart trouble were present in this child—polyarthritis, tonsillitis, chorea, torticollis or endocarditis. The case might have passed for an acute fulminating toxic myocarditis of unknown etiology had it not been for the presence of the submiliary nodules. This naturally emphasizes the importance of a search for these structures in any carditis of uncertain etiology.

3. Although the physical signs pointed to organic mitral disease, the valve was found to be practically normal. The systolic murmur was due evidently to relaxation of the diseased heart muscle and dilatation of the ring.

Case 2.—M. S., a girl, aged 20 months, a normal infant at birth, had suffered from colds almost continuously from her seventh month. There was no history of heart disease or rheumatism in the immediate family. At 8 months otitis media required myringotomy, and at 13 months she developed pertussis. Two weeks before admission, both ankles became swollen, and on the following day, both knees. There was slight fever, and the mother thought that the swollen joints were painful. The swellings subsided, returned for a time and again subsided. On admission, the child appeared well nourished and developed, somewhat anemic, but neither dyspneic nor cyanotic. The tonsils were hypertrophied. The heart was normal to percussion. The rate was rapid, and there was a gallop rhythm. The sounds were of fair quality, and at the apex a soft systolic murmur was transmitted upward. Over the left olecranon there were two, and over the right three, typical subcutaneous fibroid nodules. The bones and joints were normal. The child remained in the hospital

4. Coombs, Carey: J. Path. & Bacteriol. **15**: 489, 1910-1911.
5. Cheadle, in Allbutt's System of Medicine **2**, Part 1, p. 656.
6. Bronson, E.; Carr, E. M., and Perkins, W. A.: Am. J. M. Sc. **165**: 781 (June) 1923.
7. Bass, M. H.: M. Clin. N. Am. **2**: 201 (July) 1918.

only five days, and during that time she became rapidly worse. The systolic murmur grew more distinct, a suggestive presystolic sound developed, and a pericardial rub could be heard over the precordium. The hemoglobin fell from 83 to 70 per cent.; the white blood count was 22,400. The temperature rose from 100.8 on the day of admission to 104 four days later. Blood culture was negative. The child was taken from the hospital against medical advice, and died four days later. Permission for a necropsy could not be obtained.

Of particular importance, in the absence of a necropsy, was the finding of subcutaneous fibroid nodules. In an older child the occurrence of polyarthritis would have favored rheumatism; but the fact that polyarthritis of rheumatic origin is so rare in infancy rendered such an interpretation of the swollen joints controversial in this case. Fibroid nodules, however, are the result only of the rheumatic virus, and their presence in this case completes the rheumatic chain of polyarthritis, carditis and fibroid nodules.

CASE 3.—S. K., a girl, aged 2 years, had had ear trouble at 6 months, and at 21 months, three months before admission, examination revealed a heart lesion. However, the child was apparently well until one week before admission, when the limbs became swollen, the face pale, and the lips cyanotic. There was no history of heart trouble in the immediate family. On admission, the child appeared pale and flabby but well developed. There was no cough or cyanosis, but respiration was rapid. The tonsils were hypertrophied and congested, the crypts were filled with an exudate, the cervical glands were enlarged, and a loud to and fro murmur was heard over the entire precordium and was transmitted to the left axilla, to the epigastrium and to both sides of the back. Both the liver and the spleen were much enlarged. Over the inner condyle of the tibia and over both elbows were several small typical fibroid nodules. One of these was excised, and was examined by Dr. Mandlebaum, who reported a chronic productive inflammation without evidence of Aschoff bodies.[8] The bones and joints were normal, and the blood culture was sterile. The child lived for a month after admission to the hospital. There were temporary periods of improvement, but she died with typical signs of cardiac failure—cyanosis, extreme restlessness, orthopnea, anasarca and edema of the lungs.

At the necropsy, Dr. Sachs found the heart large. In the left auricle there was a small, grayish white, adherent blood platelet thrombus. Both tricuspid and mitral valves showed minute grayish vegetations. In addition, the mitral valve was stenosed, the edges of the leaflets were retracted, and the vegetations extended along some of the chordae tendineae. The aortic valve likewise showed vegetations on all three cusps. The heart muscle was brown, streaked with gray. Microscopic sections failed to show Aschoff bodies, but more chronic lesions were present. In the auricle there was an increase in connective tissue, and in the ventricle there were diffuse myocardial degeneration with edema and increase in interstitial connective tissue. The areas of scarring were particularly marked in and about the muscle fibers.

This case approximates the type of rheumatic fever seen in older children. The cardiac condition was at least of four and probably of six months' duration. The heart lesion was the first manifestation of rheumatism, and the history of swollen joints and the presence of nodules followed. The stenosis of the mitral ring and the retraction of the fibrotic valve leaflets also indicate the age of the lesion. This accords very well with the scarring in the heart muscle and the absence of Aschoff bodies. "Aschoff bodies are not always found in rheumatic carditis where the affection antedates death by a long period, but the healed remains, represented by sclerotic patches, are present." [8]

A fourth case, also seen by me, of carditis definitely of rheumatic origin in an infant 20 months old has been reported.[9] In that case chorea was associated with endocarditis and myocarditis, and the rheumatic etiology was confirmed by the finding of Aschoff bodies in the heart.

The question arises whether the present view of the rarity of rheumatic heart disease in infancy might not need revision. Decades ago, von Dusch, writing in Gerhardt's Handbuch, suggested that many cases of endocarditis and myocarditis classified as idiopathic might really be of rheumatic origin. At that time, however, there were no unequivocal pathologic lesions of rheumatism in infancy. The heart lesions of Aschoff and the subcutaneous fibroid nodules afford adequate proof of the presence of the rheumatic virus, and one wonders whether careful search for these lesions in infants dying of cardiac failure of uncertain origin might not reveal a greater number of cases due to rheumatism.

SUMMARY

In three cases of carditis in children under 2 years of age, the rheumatic origin has been proved by finding either subcutaneous fibroid nodules or Aschoff bodies. Careful search for these may lead to the discovery of a greater number of cases of heart disease in infancy of rheumatic origin.

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8. The absence of Aschoff bodies in this particular nodule does not militate against the idea of the similarity of the two structures, as asserted by Coombs. The structure of the nodule probably varies according to its stage of development, just as the healed stage of the Aschoff body is a scar.

9. Schroeder, L. C.: Observations on the Etiology and Pathology of Chorea Minor, J. A. M. A. **79**: 181 (July 15) 1922.

THE PROPHYLAXIS OF VARICELLA WITH CONVALESCENTS' SERUM *

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Vaccination with the contents of varicella vesicles has been used in former attempts to prevent the spread of this disease. The material, obtained by puncturing a cleaned vesicle with a sterile needle, was applied to an abraded surface of skin in much the same way in which a Pirquet tuberculin test is performed. Kling,[1] in 1913, reported that among thirty-one susceptible children exposed to varicella who were given a single vaccination, only one case of the disease appeared. Handrick,[2] in 1914, met with less success. Among 114 children inoculated by him, forty-five contracted the disease. Rabinoff,[3] in 1915, obtained better results. She reported that, among seventy-six exposed children protected in this way, only six cases of varicella appeared. Hess and Unger,[4] in 1918, injected the virus intravenously into thirty-eight children, and reported that after exposure only one contracted the disease.

During the last few years, the prophylaxis of measles by injections of convalescents' serum has attracted considerable attention.[5] In 1923, Blackfan, Peterson and Conroy [6] applied this method to varicella, and reported that among forty-two susceptible children to whom 5 c.c. of convalescents' serum had been given within five days of exposure, seven contracted a mild form of the disease and thirty-five escaped without symptoms.

Recently I have had an opportunity to test this method of prophylaxis in nine infants. Following the

* From the Department of Pediatrics, the Johns Hopkins University.

1. Kling, C. A.: Berl. klin. Wchnschr. **50**: 2083, 1913.
2. Handrick, E.: Monatschr. f. Kinderh., Orig. **13**: 242-244, 1916.
3. Rabinoff, S.: Arch. Pediat. **32**: 651-654, 1915.
4. Hess, A. F., and Unger, L. J.: A Protective Therapy for Varicella, and a Consideration of Its Pathogenesis, Am. J. Dis. Child. **16**: 34 (July) 1918.
5. Rolleston, J. D.: M. Sc. (Abs. and Rev.) **9**: 179, 1923.
6. Blackfan, K. D.; Peterson, M. F., and Conroy, F. C.: Ohio State M. J. **19**: 97 (Feb.) 1923.

appearance of a case of varicella in an open ward in this hospital, five susceptible infants were given a protective injection of convalescents' serum [7] into the muscles of the buttock. On the day following exposure, two of the infants received 4.5 c.c. each of serum obtained from a child (J. M.) twenty days after the first appearance of the rash. The other three infants were each given 3 c.c. on the sixth day after exposure. The serum for the latter three infants was obtained from a child (H. S.) eleven days after the first rise of temperature and ten days after the appearance of the rash. In none of these infants did a typical attack of varicella develop. One of them (Patient 3), inoculated six days after exposure, had a brief elevation of temperature on the twenty-second day. Examination of the skin at this time disclosed a single vesicle below the umbilicus. No further evidence of the disease appeared. The other four infants remained entirely free from symptoms. A sixth child (Patient 6), a boy aged 3½ years, in whom the history of a previous attack of varicella was uncertain, was not inoculated. This child contracted a moderately severe form of the disease on the eighteenth day following exposure.

Results Obtained with Convalescents' Serum in Prophylaxis of Varicella

Patient	Age, Months	Amount of Serum Given, C.c.	No. of Days After Exposure	Result
1. C. M.	14	4.5	1	Did not contract varicella
2. D. R.	10	4.5	1	Did not contract varicella
3. J. C.	6	3	6	Contracted abortive form of varicella on 22d day
4. W. R.	6	3	6	Did not contract varicella
5. F. W.	5½	3	6	Did not contract varicella
6. A. L.	3½	None	...	Unintentionally exposed along with preceding cases; contracted varicella on 18th day
7. F. B.	7	4	3	Did not contract varicella
8. P. B.	5	4	3	Did not contract varicella
9. A. N.	5	4	3	Did not contract varicella
10. P. B.	12	4	3	Did not contract varicella

Two weeks later, through the courtesy of Dr. Charles R. Goldsborough, I was permitted to inject four additional infants. An outbreak of varicella had occurred in one of the smaller rooms of St. Vincent's Infant Asylum, and five infants had shown evidence of the disease. On the third day, following the appearance of the first case, four infants who had escaped infection were each given 4 c.c. of convalescents' serum. These infants had spent most of their lives in the institution and had not had varicella previously. The serum used was obtained from Patient 6 on the seventeenth day following the appearance of the eruption. Although the four inoculated infants remained in the same room with the five varicella patients, none of them contracted the disease.

COMMENT

Under ordinary circumstances, an attack of varicella is so mild and the sequelae so few that prophylaxis has not been considered a matter of great importance. However, in hospital practice, in which the long incubation period means a ward under quarantine for a period twenty-three or twenty-four days, any method of preventing the occurrence of secondary cases, and diminishing the period of quarantine, is of value. The immunity conferred in this manner is probably of short duration, although in this series no cases resulted from exposure to the cases that had appeared eighteen and twenty-two days after the first case. With convalescents' serum used for protection against measles, Hermann [8] estimated that immunity may be conferred for a period of about eight weeks.

7. A negative Wassermann reaction was obtained with each lot of serum before it was used for injection.

SUMMARY

Nine infants exposed to varicella were given from 3 to 4.5 c.c. of convalescents' serum intramuscularly within from one to six days after exposure. Eight of them did not contract the disease. In the ninth infant an extremely mild attack developed after an unusually long incubation period (twenty-two days). The serum used was obtained from children in whom the disease had developed from ten to twenty days previously.

A SCARLET FEVER ANTITOXIN *

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AND
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The first effort to produce a curative serum for streptococcus infections was made by Marmorek [1] in 1895. Since then, many antistreptococcic serums have been produced; notably that of Moser,[2] and recently, that of Dochez.[3]

All of these serums have been obtained by immunizing horses with living streptococci. Those who report good results have used the serums in large dosage. Moser recommended from 100 to 200 c.c. of his serum, and Blake [4] used similar quantities of Dochez's serum. The large dosage required indicates that any curative antibodies contained in these antistreptococcic serums are present in low concentration.

We have shown that the streptococci which cause scarlet fever produce a toxin, and that this toxin, when injected into susceptible human beings, produces nausea, vomiting, general malaise, fever and a scarlatinal rash.[5] Used in high dilutions, the toxin gives a skin test for susceptibility to scarlet fever.[6] In more concentrated solutions, it can be used in preventive immunization.[5]

The blood serum of persons immunized with the toxin and of patients convalescent from scarlet fever contains an antitoxin that neutralizes the toxin.[6] This has been determined by means of the skin test.

With the idea of producing a scarlet fever antitoxin, a horse was immunized by subcutaneous injections of sterile filtrate from broth cultures of the strains of streptococci that had produced experimental scarlet fever.[7]

Before immunization was begun, blood serum from the horse was tested for antitoxin by the following method: Various dilutions of the toxin were mixed with equal volumes of the undiluted horse serum, and incubated one hour. Skin tests were then made with

8. Hermann, C.: Arch. Pediat. **39**: 607-610, 1922.

* From the John McCormick Institute for Infectious Diseases.

1. Marmorek: La streptocoque et la sérum antistreptococcique, Ann. de l'Inst. Pasteur **9**: 592-620, 1895.

2. Moser: Ueber die Behandlung des Scharlachs mit einen scharlachstreptokokkenserum, Wien. klin. Wchnschr. **15**: 1053-1055, 1902.

3. Dochez, A. R., and Sherman, Lillian: Streptococcus Hemolyticus in Scarlet Fever, J. A. M. A. **82**: 542-544 (Feb. 16) 1924.

4. Blake, F. G., and Trask, J. D., Jr.: Treatment of Scarlet Fever with Scarlatinal Antistreptococcic Serum, J. A. M. A. **82**: 712-714 (March 1) 1924.

5. Dick, G. F., and Dick, Gladys H.: Scarlet Fever Toxin in Preventive Immunization, J. A. M. A. **82**: 544 (Feb. 16) 1924.

6. Dick, G. F., and Dick, Gladys H.: A Skin Test for Susceptibility to Scarlet Fever, J. A. M. A. **82**: 265 (Jan. 26) 1924.

7. Dick, G. F., and Dick Gladys H.: Experimental Scarlet Fever, J. A. M. A. **81**: 1166 (Oct. 6) 1923; The Etiology of Scarlet Fever, ibid. **82**: 301 (Jan. 26) 1924.

these mixtures. It was found that the horse's serum did not neutralize even weak dilutions of the toxin.

Following injections of the larger doses of toxin, the horse showed reactions, manifested by local swelling, fever, and loss of appetite.

After increasing doses of toxin, up to 250 c.c., had been given, the horse's serum was again tested. It neutralized strong solutions of the toxin. The horse was then bled, and a quantitative estimation of the antitoxin in the serum was made by incubating various dilutions of the serum with a 1:50 dilution of the toxin, and making skin tests with these mixtures. It was found that 10 c.c. of the serum contained antitoxin sufficient to neutralize twenty times the amount of toxin that produced nausea, vomiting, general malaise, fever of from 100 to 101 F., and a definite scarlatinal rash in susceptible adults.

Part of the serum was concentrated, and the concentrated antitoxin was tested in a series of dilutions. These tests showed that the antitoxin was not destroyed or lost in the concentration process.

CONCLUSION

A scarlet fever antitoxin has been obtained by immunizing a horse with scarlet fever toxin. This antitoxin may be concentrated by the methods employed for concentrating other antitoxic serums.

The therapeutic value of the antitoxin can be determined only when the results of its use in a large series of carefully controlled cases are available.

FOUR GENERATIONS OF POLYMASTIA*

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In reviewing the literature since 1837 under anomalies of the breast, I noted that the hereditary factor in polymastia was pointed out by Lichtenstern,[1] Peterquin,[2] Bonnet,[3] Neugebauer[4] and Otani.[5]

Of the seven cases at Barnes Hospital and the Washington University outpatient clinic, in the last year, it has been possible to trace the heredity of this anomaly in but one family. In this instance it was found in four generations.

According to Champneys and Bowley,[6] Bacon[7] and Seitz,[8] there is a distinction to be drawn between true polymastia (micromammae) and accumulations of breast tissue, or glands that histologically resemble breast tissue and are independent of the normally located breasts. They assert that many cases of so-called polymastia described by the earlier writers (Otani,[5] Iwai[9] and Kayser[10]) are merely an hypertrophy and differentiation of the large sweat glands of the axilla normally found in the puerperium. The later writers (from 1910 to 1923) have apparently not drawn this distinction, but described swellings in the axilla that appeared and disappeared with lactation, as polymastia.

In our cases we found both the miniature breast and those without the nipple and areola present in the same woman, but in opposite axillae. The mass in the right axilla is probably identical with those described by Seitz,[8] with the exception that it has no nipple, nor does any secretion appear on the skin on moderately deep pressure. But it was observed that the mass became definitely smaller and much less tense when the breast on the same side was drained by the infant. The tenderness was less acute after nursing. It appeared as though there were an elongated duct that connected the mass with the normally situated breast.

This condition is clinically of importance because in one instance the swelling was mistaken for an acute adenitis and was incised, causing discomfort for both patient and physician. And again they were confused with metastatic nodules from a carcinomatous breast. Almost every case questioned the predisposition of these tumors to cancer, of which no mention was found in the literature.

REPORT OF CASES

CASE 1.—The great grandmother of the patient first observed, aged 83, a housewife, nonigravida, came under the observation of Dr. H. in her third pregnancy, aged 20, complaining of a tender swelling in the left axilla. She gave the history of having had this swelling at two previous pregnancies, but that it caused no great discomfort. Its first appearance was with the first pregnancy, about the fourth month of gestation. From that time until the third day post partum it gradually enlarged to about 5 cm. in diameter. The size and consistency varied with the nursing periods. It was largest at morning just before the infant nursed, and as the left breast was emptied it became smaller and softer. At the end of lactation it was about 3 cm. in diameter and very soft. There was no indication of a nipple or areola over the mass. Dr. H. advised hot pads for twenty-four hours, and then incised the mass. To his surprise, pus did not exude. There was what appeared to be a bloody serous discharge, which continued until the next day. After that until the wound healed, five days later, there was an opalescent white exudate from the aperture. Subsequent pregnancies were always accompanied by a tender swelling in the axilla, but the "wen" was not again incised.

Of the nine children, five were females. Four have been examined for polymastia; two have the anomaly present in the left axilla; the other three are normal.

CASE 2.—The great aunt, aged 49, secundigravida, had a history quite similar to that of her mother, described above. Both children were males, and did not have the anomaly. She had a mass in the left axilla about 3 cm. in diameter, first noticed at pregnancy, which enlarged and became tender at about the onset of lactation. This mass was always reduced in size and became softer when the left breast was drained. It did not communicate with the exterior through a nipple.

CASE 3.—The grandmother, aged 52, tertigravida, had the anomaly on the left side. Two children died in infancy. One daughter living has the anomaly in both axillae. A mass in the left axilla was first noticed at the age of 16; it was then about 1.5 cm. in diameter, and was firm and circumscribed. It was located in the subcutaneous tissue just under the pectoral fold. At about the fifth month of her first pregnancy she noticed that the mass began to enlarge and become tender. The enlargement kept pace with that of the breast, reaching the maximum size a few days after parturition. It was then about 3.5 cm. in diameter, and was very tender and quite firm. The size and consistency varied as the left breast became filled or was emptied. There was no indication of a nipple on the skin covering the mass. In the two subsequent pregnancies the mass repeated the performance. At present it is about 3 by 5 cm., soft, and shows no signs of inflammation. The skin is freely movable over it, and the mass is quite distinct from the axillary nodes.

CASE 4.—The mother, aged 28, tertigravida, had one male and two female children; one female has the anomaly in the left axilla. Swellings were noticed in both axillae for the

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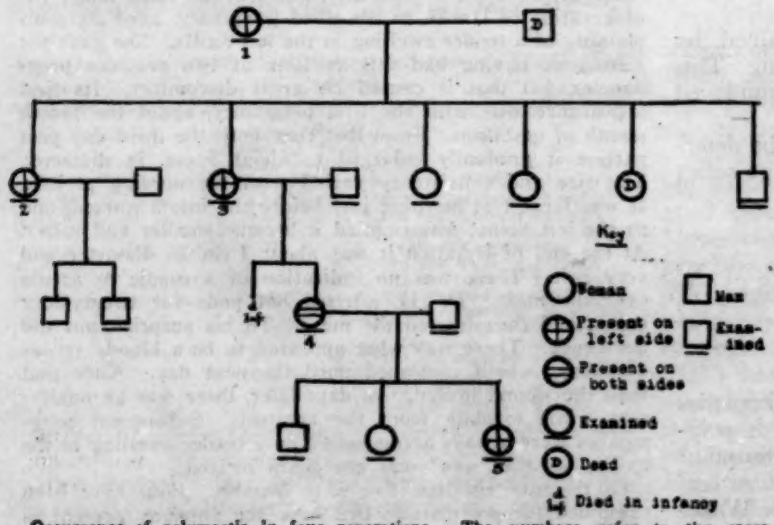
* From the Department of Anatomy, Washington University.

1. Lichtenstern: Virchows Arch. f. path. Anat. **73**: 222, 1878.
2. Peterquin: Gaz. med. de Paris, 1837.
3. Bonnet: J. d. sc. méd. de Lille **2**: 529-537, 1911; Bayer ärztliches Intelligenzblatt, 1885; Poitou méd. **26**: 272-277, 1911.
4. Neugebauer: Centralbl. f. Gynäk., 1886, No. 45.
5. Otani: Mitt. d. med. Gesellsc. zu Tokyo **13**, May, 1899; **16**, May, 1902.
6. Champneys and Bowley: Medico-Chirurgical Transactions, 1886-1895.
7. Bacon: M. News, Aug. 9, 1902.
8. Seitz: Arch. f. Gynäk. **80**, 1906; **88**: 1909.
9. Iwai: Lancet **173**: 753, 1907.
10. Kayser: Berl. klin. Wchnschr. **34**: 767, 1904; Arch. f. Gynäk. **85**: 459, 1908.

first time in the second month of the first gestation, in May, 1918. Attention was first attracted to the masses when they became very tender after a hard day's work. They gradually became larger until parturition, after which they enlarged rapidly for three or four days. The mass in the right axilla measured 7.5 by 4 cm., and was elevated above the surrounding tissues 3 cm. It did not have a nipple, but seemed to drain by an elongated duct through the nipple of the right breast. The mass in the left axilla was perfectly round, measuring 5 cm. in diameter, and projected 2.5 cm. from the surrounding tissues. It had in its center a perfectly formed nipple. The diagnosis of "milk gland" was made by the attending physician, Dr. G. Both masses dwindled to mere subcutaneous thickenings after lactation ceased. The second pregnancy, in July, 1920, was accompanied by a similar series of events. The attending physician, Dr. S., diagnosed the condition as axillary adenitis. It was during the third pregnancy, in April, 1922, while the patient was under the care of Dr. Otto Schwarz, that the correct diagnosis was made, and an accurate study instituted. The secretion of the gland in the left axilla was studied microscopically. During the first three days post partum, colostrum was obtained. Then, when lactation commenced in the normal breasts, the secretion in the accessory gland was found to be milk. This gland



Occurrence of polymastia in four generations. The numbers refer to the cases reported in the text.

secreted for a period of only fourteen days. A chemical examination of the milk was not made. At this time the mass in the right axilla measured 9 by 4.5 cm., and protruded 3 cm. The left one measured 5.5 cm. in diameter and projected 2.5 cm.

CASE 5.—The daughter, aged 2, has a definite nodule in the subcutaneous tissue of the left axilla. It is somewhat firm, the edges are indistinctly palpable, and it can easily be lifted from the structures deeper in the axilla. It shows no inflammatory reaction, and evidently causes no pain on palpation. The mass is approximately 1 cm. in diameter, and does not protrude above the surrounding skin. There is a nipple and its areola present.

CONCLUSIONS

1. In some families, polymastia is hereditary.
2. These tumors of the axilla, enlarging in pregnancy and keeping pace with the rapid enlargement and engorgement of the breasts in the early puerperium, should be classed as polymastia.
3. Apparently the masses without nipples have some connection with the normal breasts, possibly by an elongated duct.
4. These accumulations of breast tissue should not be confused with inflammatory processes; and the patient should be assured that they have nothing in common with carcinoma of the breast.

BILIRUBIN DETERMINATION IN CHOLECYSTITIS WITHOUT JAUNDICE *

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The concept "latent jaundice," i. e., a condition in which there is no visible discoloration of the skin and no excretion of bile pigment in the urine, owes its development in recent years to two laboratory methods for determining slight increases (over normal) of bile pigment in the blood serum. These are the methods of Van den Bergh and Fouchet. The former has been employed as a quantitative as well as a qualitative method. It has been shown that bilirubin is normally present in the blood in a concentration of approximately 0.3 to 0.5 part to 200,000; that visible jaundice occurs only when the bilirubin content in the blood is increased to 4 parts or more in 200,000, and that the excretion of bilirubin through the kidneys does not begin until the latter concentration has occurred. It is evident, then, that, in all cases of cholecystitis with visible jaundice, there will have been an early stage before jaundice appeared when there was an increase above normal of bile pigment in the blood stream. According to Kehr's statistics, 51 per cent. of patients who suffer with gallstone disease show jaundice—transient, recurrent or continued—whereas persons carrying gallstones unaccompanied by symptoms show jaundice in only 0.5 per cent. of cases. It is probable, however, that among the cases in which there is no visible jaundice, there is a certain percentage in which there is hyperbilirubinemia. It is with this group that we are concerned here.

It has been shown by others, and it is reasonable to believe, that hyperbilirubinemia occurs more frequently during an acute attack than during the interval, just as is the case with visible jaundice. Furthermore, the percentage of positive hyperbilirubinemia reactions in the interval cases will depend on our definition of the terms "attack" and "interval." In this report we have limited the term attack to cases in which pain was present when the blood was taken, or had been present up to a few hours before, and have limited the term interval to those cases in which the patients had been free from pain for some time, but presented gastrointestinal symptoms, with or without local tenderness. Patients without pain, but showing slight rises of temperature, would thus be included in the interval group. The present report is based on a study of twenty-nine cases of cholecystitis, either proved by operation or in which the diagnosis seemed beyond question. Twenty-two of the cases, or 62 per cent. of the twenty-nine, were proved by operation; the other seven cases, or 38 per cent., presented what seemed to us unassailable clinical and roentgenologic evidence.

We have employed two laboratory tests to determine the presence of hyperbilirubinemia, the Van den Bergh and the Fouchet. Van den Bergh has described two variations of his method; a direct and an indirect. In both the direct and the indirect the reagent employed is

* From Michael Reese and Cook County hospitals.

Ehrlich's diazomixture. This consists of: Solution A—Sulphanilic acid, 2.5 gm.; concentrated hydrochloric acid, 25 c.c.; distilled water, 500 c.c.; Solution B—Sodium nitrite, 0.5 gm.; distilled water, 100 c.c. These are mixed each time in the proportion of 25 c.c. of Solution A to 0.75 c.c. of Solution B. These two methods are supposed to be of value in differentiating between obstructive jaundice and nonobstructive jaundice, the latter due to primary damage to the liver cells or jaundice of extrahepatic origin.

The Van den Bergh direct test is performed as follows: Five cubic centimeters of blood is withdrawn from a vein. The blood is placed in a test-tube, is allowed to clot, and is then centrifugalized. One cubic centimeter of the supernatant serum is withdrawn by means of a pipet, placed in a small test-tube, and to this 0.25 c.c. of Ehrlich reagent is directly added.

In cases of obstructive jaundice, the color of the serum changes from a pale yellow to a violet or pink, owing to the formation of azo-bilirubin. This constitutes a positive direct test. The test is negative if no change of color is demonstrable. In nonobstructive jaundice, the immediate direct reaction is negative, either showing no change in color at all, or appearing only after a delay of more than one minute (delayed direct).

In Van den Bergh's indirect method, the 1 c.c. of serum is added to 2 c.c. of alcohol, and centrifugalized; 1 c.c. of the supernatant fluid is withdrawn by means of a pipet, and to this 0.25 c.c. of Ehrlich's diazoreagent is added.

When the test is positive, there is a similar change in color as in the direct reaction in obstructive jaundice. This indirect method is positive in both nonobstructive and obstructive jaundice. Hence a blood serum which gives a negative direct reaction but a positive indirect reaction is known to be from a case of nonobstructive jaundice.

We find that, in some cases in which the jaundice is increasing in degree, at first only the indirect test is positive, the direct being either negative or delayed; whereas later, the direct becomes much more marked and immediate in type. This has been interpreted as indicating that the jaundice of cholecystitis is at first toxic, owing to damage to the liver cells, and only later is due to obstruction in the biliary passages (large or small).[1]

In normal blood, the Ehrlich reaction is always faint and often produces either no change or only an opacity with a very doubtful pink tinge. If one rejects as negative all reactions in which the pink or violet is not definite and unquestionably present, there is no possibility of mistaking a pathologic change for a normal reaction.

A number of methods have been used to determine the bilirubin content of the serum quantitatively. We have found the method of Meulengracht the most practicable. The standard consists of potassium bichromate, 0.05 gm.; sulphuric acid, 2 drops, and distilled water, 500 c.c. They may be compared in Sahli hemoglobinometer tubes. The plasma is diluted with physiologic sodium chlorid solution until identical with the standard. The number of cubic centimeters of solution needed to bring 1 c.c. plasma to this point is the dilution figure and normally varies between 1 and 5. The method is based on the supposition that all coloring matter in plasma is due to bilirubin, leaving out lipochrome, etc., which are normally present in small amount. It is only of relative value, therefore, and should always be controlled by one of the specific qualitative tests, such as that of Van den Bergh or of Fouchet.

The other test, that of Fouchet, is an oxidation test for bilirubin, and gives the usual green. Fouchet's reagent consists of 5 c.c. of trichloracetic acid, 2 c.c. of 10 per cent. ferric chlorid solution, and 20 c.c. of distilled water. The test is carried out by adding from 3 to 5 drops of this solution to an equal amount of serum (obtained in the same manner as when the Van den Bergh method is used) and mixing them on a white porcelain surface. If hyperbilirubinemia is present to an extent of 1:60,000 or over, a green develops. This color change is specific for bile pigment.

In the series of cases reported here, the Van den Bergh and the Fouchet methods were used in order to determine whether the Fouchet method could not be used instead of the more complicated Van den Bergh method.

In comparing the relative values of the two methods used, their chemistry must be considered. The Fouchet reacts with bilirubin in a maximum dilution of 1:60,000. It is an oxidation test similar to those of Gmelin and Hammersten, which have long been considered specific for this substance. Our own experience with the Fouchet bears this out. In a series of eighty-nine control serums on which the Fouchet method was used, only five were positive, and these were all cases in which hyperbilirubinemia was known to be present as acute endocarditis, splenomegaly and pernicious anemia. Three doubtful reactions and the remaining negatives were either normal or types in which no such pigment increase is found. This evidence brings out two facts: (1) that the Fouchet does not react with normal serums (in which the bile pigment exists in a dilution of about 0.4 to 200,000); (2) that it is probably specific for bile pigment. The diazoreaction depends on the formation of a definite colored compound, azo-bilirubin, which has been isolated and identified. Pure bilirubin dissolved in alcohol reacts with the diazoreagent in a dilution of 1:1,500,000. But by no means all the bilirubin in the blood serum reacts in anywhere near such a dilution. Many normal serums give no trace of indirect reaction. Again, bilirubin in a case of hemolytic jaundice or pernicious anemia does not react with the reagent when brought directly together, or at any rate very slowly, from several minutes to twenty-four hours being needed to produce the coupling. This, of course, is the delayed direct. If, however, proteins and other substances are first precipitated by alcohol, and the diazosolution is added, immediate coupling occurs and the colored azo dye results. This is the indirect reaction. To explain this difference: Van den Bergh supposes that in the hemolytic type of jaundice the bilirubin derived from extrahepatic sources must exist in protein combination, and that this is broken up gradually when diazo is added directly or immediately by adding 96 per cent. alcohol. There are, however, occasional cases in which it is apparently impossible to break up this combination with alcohol. These are the occasional but definite ones in which there is a long delayed but positive direct reaction and a negative indirect. Moreover, serums which, if fresh, give a mild but definite indirect and positive Fouchet reaction, may after twenty-four hours, even if kept in the icebox, react negatively to both. The bilirubin has probably not been destroyed by being kept, yet it does not react.

1. The technic of the method and the interpretation of the results are well summed up by McNee, J. W.: Quart. J. Med. **16**: 390 (July) 1923.

We must conclude, then, that while the diazotest is by far more delicate than the Fouchet for free bilirubin, yet in blood serum the Fouchet reagent may by virtue of its oxidizing effects break up combinations and give positive reactions where the diazo indicates nothing. It is only in this way that we can account for the positive Fouchet with negative diazo unless we admit the lack of specificity of the former. The evidence, however, is against the latter view.

Their relative clinical value is shown by the following facts:

In the present series of twenty-nine cases, tests were made thirty-eight times by the method of Fouchet and by the direct and indirect method of Van den Bergh. The Fouchet test was positive twenty-eight times; negative, nine times, and doubtful once. One or the other, or both direct and indirect Van den Bergh tests were positive twenty times, negative fifteen times, and doubtful three times. In other words, the Fouchet test was positive in 74 per cent., whereas the Van den Bergh was positive in only 53 per cent., i. e., 21 per cent. less often. The indirect was positive only once when the Fouchet was negative, and the direct alone was positive in no case in which the Fouchet was negative. If, then, the latter is specific for bile pigment, and we see no reason to doubt this, the Fouchet test is the most practicable clinical method for detecting mild grades of hyperbilirubinemia.

The accompanying table summarizes our findings in the cases here reported.

Summary of Findings

	Number	Per Cent.
Cases studied	29	
Positive reactions (hyperbilirubinemia)	24	83
Doubtful reactions	1	3
Negative reactions	4	14
DURING ATTACK		
Cases studied	14	
Postive test (hyperbilirubinemia)	13	93
Doubtful reactions	0	
Negative reaction	1	7
BETWEEN ATTACKS		
Cases studied	15	
Positive test (hyperbilirubinemia)	11	73
Doubtful test	1	7
Negative test	3	20

From these figures it seems probable that, if examined during the attack, more than 90 per cent. of cases of cholecystitis without evident jaundice show hyperbilirubinemia. We cannot state how early it usually appears, but in two cases of the series it appeared within the first twenty-four hours. Of some theoretical interest is the fact that of these reactions there was an immediate direct reaction four times, supposedly indicating an obstructive type of jaundice, while the remaining positive cases were of the delayed direct and indirect types, suggesting some damage to the liver cells. Differences as to type of jaundice are, of course, not indicated by the Fouchet test. The question arises whether an inflammation strictly confined to the gallbladder might produce this hyperbilirubinemia, by absorption of bile through its walls, or whether the obstructive or inflammatory process must extend to the liver or common duct. To determine this for simple obstruction, Dr. William Bloom of the Nelson Morris Research Institute of the Michael Reese Hospital tied off the cystic duct in a dog and determined the bilirubin content of the blood at intervals for two weeks. No increase was demonstrated. This observation may explain the lower percentage of positive reactions in the interval cases. In our series, 73 per cent. were positive when examined during an interval. This is a rather high percentage, and is accounted for by the fact that all were hospital cases in which the symptoms were quite severe, except pain. Some investigators have reported percentages around 70, whereas other observers report lower figures. If the gastric distress in the interval cases is due simply to stasis in the gallbladder or to adhesions between the gallbladder and adjacent organs, one would not expect hyperbilirubinemia. Does the presence or absence of stones give any indication of the probable bile content of the blood? In the patients operated on during the attack, the only one giving a negative test was a case in which no stone was found in the gallbladder or elsewhere. In the nine interval cases in which operation was performed, stones were found in eight. Five of these eight cases showed hyperbilirubinemia. No stones were found in one interval case. This case also showed bile increase.

The presence of rise in temperature and leukocytosis as indicating an inflammatory reaction might be expected to have some bearing on the hyperbilirubinemia. Both were present during the attack in the majority of cases. There were, however, two cases in which neither fever nor leukocytosis was present, in one of which hyperbilirubinemia was present. It was absent in the other case. In the interval cases in which these data were noted, both fever and leukocytosis were absent in five. In four of these five cases, hyperbilirubinemia was present; in the other case it was absent. Both during and between attacks, then, bile pigment increase in the blood bears no necessary relationship to the presence or absence of stones or of other clinical signs of inflammatory reaction; i. e., fever or leukocytosis.

Urobilin increase in the urine was noted almost invariably, but has no diagnostic value, owing to the fact that it is present in numerous other conditions.

Two series of cases were used as controls: pneumonia and gastric or duodenal ulcer or carcinoma. It is, of course, known that visible jaundice is not infrequent in pneumonia. However, in fourteen cases of pneumonia without visible jaundice, seven cases showed bile increase. In six of these, the Fouchet test and the Van den Bergh test were both positive, and in two cases one of these tests was positive and the other negative. With the diazomethod, only one immediate direct reaction was obtained, indicating, of course, that the obstructive type of jaundice in pneumonia is exceptional. In the gastro-intestinal cases, there were four carcinomas of the stomach, four gastric ulcers and six duodenal ulcers. In none of these cases was hyperbilirubinemia found. In the case of duodenal ulcer, this is contrary to the findings of both Hadlich[2] and Bernheim,[3] who found quantitative increase of bile pigment in all duodenal ulcers. We see no reason to doubt the accuracy of our results.

CONCLUSIONS

1. Hyperbilirubinemia was found in 83 per cent. of cholecystitis cases, being present in 93 per cent. of cases during the attack, and 73 per cent. of cases during the interval, the latter being defined as the condition when gastric symptoms are present but not pain.

2. The Fouchet test is recommended for clinical purposes as being simpler and less sensitive than the

2. Hadlich, E.: Klin. Wchnschr. 1: 1091-1092 (May 27) 1922.
3. Bernheim, Alice R.: The Icterus Index (A Quantitative Estimation of Bilirubinemia) an Aid in Diagnosis and Prognosis, J. A. M. A. 82: 291 (Jan. 26) 1924.

Van den Bergh test, reacting only when the blood serum contains a pathologic amount of bilirubin.

3. The presence of hyperbilirubinemia is of value in deciding between cholecystitis and gastric and duodenal ulcer or carcinoma.

4. Its presence is of no value in differentiating from pneumonia. Here latent jaundice was found in 50 per cent. of the nonicteric patients examined.

104 South Michigan Avenue—310 South Michigan Avenue.

PARALYSIS OF THE LEFT RECURRENT LARYNGEAL NERVE

IN ASSOCIATION WITH MITRAL STENOSIS *

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Mitral stenosis is one of the rare causes of paralysis of the left recurrent laryngeal nerve, the association between these conditions being first described by Ortner [1] in 1897. From the date of Ortner's original publication until 1920, Garland and White [2] found forty-four references on the subject, with the report of sixty-one cases.

Illustrating the frequency of the occurrence of this association, Hall,[3] in 1913, reported sixty-four cases of unilateral recurrent laryngeal nerve paralysis, the left nerve being affected forty-seven times. Of this number only two cases were caused by dilatation of the left side of the heart. Hall further stated that among fifty-two cases of unilateral paralysis reported in the proceedings of the Laryngological Society from 1893 to 1907, the left vocal cord was affected thirty-five times, mitral stenosis and an enlarged left auricle being the cause in two instances. Garland and White [2] found nine cases in the Massachusetts General Hospital records covering eight years.

Numerous theories have been advanced to explain the etiology. In Ortner's two original cases, an enlarged left auricle was reported to have caused compression of the recurrent laryngeal against the aorta. Alexander,[4] in 1904, was the first to advance the theory that the pulmonary artery by its own enlargement, or indirectly by enlargement of the left auricle, is pressed against the nerve and aortic arch. The following year, Frischauer,[5] in a case at necropsy, found the nerve squeezed between the left pulmonary artery and aorta by the pressure of a dilated left auricle and pulmonary vein. Several years later, Fetterolf and Norris,[6] after careful anatomic studies of frozen specimens, concluded that dilatation of the left auricle would cause the left pulmonary vein to press against the pulmonary artery, the latter in turn being forced against the aorta. They believed that, to cause the paralysis, the nerve must actually be "squeezed between the left pulmonary artery and aorta or aortic ligament." Kraus [7] advocated the theory that the right ventricular dilatation present in mitral stenosis caused displacement of the heart to the right, with consequent dragging on the aortic ligament and resultant stretching and paralysis of the nerve. Guttman and Neuhof [8] believe that the nerve may also be compressed and caught between bands of pericardial and mediastinal adhesions, as might have occurred in a case of theirs in which pericarditis was present.

Paralysis of the left recurrent laryngeal nerve manifests itself by change in the voice, which becomes hoarse and indistinct. The patient may be able to communicate only in a whisper. A laryngoscopic examination shows paralysis of the vocal cord on the left side.

Among the more frequent causes of paralysis of the left recurrent laryngeal nerve are aortic aneurysm, mediastinal growths, pulmonary tuberculosis and pleuritic thickening. Hall [3] considers the age of the patient an important factor in the diagnosis of the paralysis, as under the age of 25 aneurysm would be extremely rare, and pulmonary tuberculosis more likely. Whenever paralysis of the left vocal cord occurs without being due to one of the more frequent causes, one should always think of mitral stenosis. Brown and Hempstead [9] emphasize the value of the roentgen ray in the diagnosis, enabling the examiner to rule out aneurysmal and mediastinal enlargement wtih absolute exactness.

According to Lian and Marcorellas,[10] paralysis of the recurrent nerve may occur at any period of the mitral stenosis. From the case reports, it is apparent that the nerve may be affected slowly, by the gradual enlargement of the heart without marked associated cardiac symptoms, or it may be paralyzed abruptly during a sudden failure of compensation in a long standing mitral case. In some instances, the voice disturbance may be the first symptom that leads the patient to consult a physician.

The prognosis in these cases is the prognosis of nerve injury from pressure in general. If the pressure has not been too severe or too long continued, function will return in the nerve with the removal of the cause. In a given case, therefore, the prognosis depends on the ability to bring about a reduction in the size of the auricle by appropriate treatment of the cardiac condition.

Relapses or recurrences of left recurrent laryngeal nerve paralysis are not infrequent. Davis [11] reported a case developing in a woman, aged 40, with well marked mitral stenosis, hemoptysis and failure of compensation. This patient had a similar condition three years previously from which she recovered in two months.

REPORT OF CASE

Mrs. W., aged 38, white, seen by me in February, 1923, complained of nervousness, dyspnea, ready fatigue and cardiac palpitation. She had had a very severe attack of "inflammatory rheumatism" sixteen years previously, with the development of cardiac symptoms eight years later. Besides measles in childhood and influenza in 1920, there was no further medical history. She had been married eighteen years, and had never been pregnant.

On examination there was a marked presystolic murmur and thrill with a heaving cardiac impulse against the chest wall. The blood pressure was 90 diastolic and 116 systolic. The urine contained a moderate amount of albumin, with an occasional hyaline and pale granular cast. Roentgen-ray

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* Read before the Spokane County Medical Society, Feb. 14, 1924.

1. Ortner: Wien. klin. Wchnschr., 1897, No. 33, p. 763 (quoted from Guttman and Neuhof [Footnote 8]).
2. Garland, Joseph; and White, P. D.: Paralysis of the Left Recurrent Laryngeal Nerve Associated with Mitral Stenosis, Arch. Int. Med. 26: 343 (Sept.) 1920.
3. Hall, F. de H.; Ferrier, D., and Permewan, W.: Discussion on the Etiology of Unilateral Paralysis of the Recurrent Laryngeal Nerve, Proc. Roy. Soc. Med., Sect. Laryngol. 62: 139, 1912-1913.
4. Alexander: Berl. klin. Wchnschr., 1904, p. 135 (quoted from Guttman and Neuhof).
5. Frischauer: Wien. klin. Wchnschr. 18: 1383, 1905 (quoted from Guttman and Neuhof).
6. Fetterolf and Norris: Am. J. M. Sc. 112: 625, 1911.
7. Kraus: Verhandl. d. 19 Cong. f. inn. Med., 1900, p. 607 (quoted from Guttman and Neuhof).
8. Guttman, John; and Neuhof, Selian: Radial Pulse Difference and Left Recurrent Nerve Paralysis Due to Mitral Stenosis, J. A. M. A. 66: 335 (Jan. 29) 1916.
9. Brown, G. E., and Hempstead, B. E.: Paralysis of Recurrent Laryngeal Nerve Associated with Mitral Stenosis, J. A. M. A. 70: 4 (Jan. 5) 1918.
10. Lian, C., and Marcorellas, E.: Paralysis of the Left Recurrent Laryngeal Nerve in Mitral Stenosis, Arch. d. mal. du cœur 6: 369, 1913.
11. Davis, E. D.: Notes of a Case of Left Recurrent Laryngeal Paralysis, Probably Due to Dilatation of the Left Auricle, Proc. Roy. Soc. Med., Sect. Laryngol. 62: 137, 1912-1913.

examination of the chest showed distinct cardiac enlargement. The patient was given digitalis and advised to take an absolute rest.

About one month later she returned with a marked exacerbation of symptoms, including aphonia, a typical cardiac cough and auricular fibrillation. Despite all that could be done, the symptoms of compensatory failure increased, the patient being confused or delirious for a couple of weeks, but eventually recovering sufficiently to return home. She reported again the following June, fairly comfortable as regards the cardiac condition, but able to speak only in a whisper. She was then referred for a laryngoscopic examination to Dr. Otto Rott, who reported complete paralysis of the left vocal cord. Following further treatment and rest at home, this paralysis cleared up so that the voice regained its normal tone and volume.

CONCLUSIONS

Mitral stenosis in rare instances may cause paralysis of the left recurrent laryngeal nerve.

The probable cause of this paralysis is pressure, the nerve being squeezed between the left pulmonary artery and aorta or aortic ligament.

The paralysis may occur at any time during the course of a mitral stenosis, either as the first symptom noticeable to the patient, or abruptly during a break in cardiac compensation.

Prognosis depends on the duration and severity of the pressure, and ability on the part of the heart to respond to appropriate treatment for the valve lesion.

Paulsen Building.

CONGENITAL SYPHILIS: A PUBLIC HEALTH PROBLEM

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Is congenital syphilis a public health problem? This question is raised by all directors of community health activities when approached for assistance by those who are working to suppress the scourge. Certain data that the state department of health has recently collected may suggest an answer.

Each of 2,400 physicians residing in New York State, outside New York City, who was known to have diagnosed a case of venereal disease in 1922, was asked to report, concerning the cases of congenital syphilis observed during 1922:

The approximate number of definite cases.
The approximate number of probable cases.
The number of definite cases in which the patient died under 2 years of age.
The number of probable cases in which the patient died under 2 years of age.
The number of syphilitic stillbirths.

Of the 778 physicians that responded, about one third submitted clinical data as requested. Approximately two thirds of the physicians responding regretted their inability to give specific information, admitting either that they had not looked for congenital syphilis or that their practice did not bring them in contact with children. A few advised that they were no longer in active practice.

In order to determine whether there is any great difference in incidence among sparsely and densely populated sections, the responses were separated as to the physician's practice into two groups, rural and urban. Communities with a population of 10,000 or over were considered urban. We are cognizant that the United States Census Bureau designates communities of 2,500 or more as urban, but for our purposes we believe our selection better because, in cities or villages with a population less than 10,000, a majority of the physicians will have more or less extensive rural practice, and even in the largest cities there will still be some physicians with rural practice.

TABLE 1.—*Analysis of Data Submitted on Returned Questionnaires*

	Rural	Urban	Total
Number of replies received	188	590	778
Number of physicians retired	3	13	16
Number of eye, ear, nose and throat specialists	0	14	14
Number reporting having seen cases	47	217	264
Number of definite cases seen	75	398	473
Number of probable cases seen	99	517	616
Total number of cases seen	174	915	1,089
Average number of cases seen by each physician	3.7	4.2	4.1
Number of deaths among definite cases under 2 years of age	7	66	73
Number of deaths among probable cases under 2 years of age	10	99	109
Total number of deaths	17	165	182
Number of stillbirths complicated by syphilis	24	156	180

Thirty-seven per cent. of the physicians with urban practice saw congenital syphilis, as against 25 per cent. of those with rural practice, but the number of cases observed by the individual physician was practically the same in the two groups. The rural physician saw an average of 3.7 cases, and the urban physician 4.2 cases during the year.

The mortality among these children was very high; 182 not yet 2 years of age died in that year. The ages of but 225 of the 1,089 children were obtained, and half of these had not reached 2 years of age; therefore, if the same ratio holds for the larger group, 544 were under 2 years of age, and 182, or 33⅓ per cent., died during the year. The larger proportion of deaths occurred among the urban cases. It will also be observed that the proportion of deaths was slightly greater among those cases reported as probable syphilis.

Additional data were requested from the physicians on the cases reported: namely, sex, age, diagnostic symptoms and a statement as to whether the parents were known to be infected. Responses from 103 physicians brought specific information concerning 225 cases. These were equally divided according to sex, but when separated according to residence, it was found that from the rural districts more infected males were reported, while the urban practitioners reported more females.

TABLE 2.—*Distribution of Two Hundred and Twenty-Five Cases According to Sex and Residence*

Sex	Rural	Urban	Total
Males	73	90	113
Females	15	97	112

The ages of these cases, when observed in 1922, varied from some prematurely born to one patient 25 years of age. Almost one half, or 49 per cent., of the 225 patients were not above 2 years of age; eighty-two cases, or 36 per cent., were but 1 year or younger, and only ten were more than 16 years of age.

The diagnosis of syphilis from clinical symptoms alone is usually so difficult that the careful physician never neglects to support his observations by laboratory examination of the proper specimens. The great variety of symptoms produced by syphilis, and few of them so

specific in character as the positive complement fixation test, has led some physicians to place too great reliance on the laboratory reports. It must be remembered that, just as no particular clinical symptom is always present, so the blood reaction may not always indicate correctly

TABLE 3.—*Distribution of Two Hundred and Twenty-Five Cases According to Age of Patient When Report Was Made*

Age	Cases	Age	Cases
Newly born	19	3 years	5
1 month	9	4 years	8
2 months	6	5 years	6
3 months	11	6 years	2
4 months	3	7 years	10
5 months	4	8 years	3
6 months	10	9 years	8
7 months	2	10 years	11
8 months	1	11 years	9
9 months	2	12 years	10
10 months	2	13 years	9
11 months	1	14 years	11
12 months	12	15 years	9
Total for one year	82		
13 months	9	16 years	4
14 months	3	17 years	3
15 months	6	18 years	1
16 months	1	19 years	1
17 months	1	20 years	2
18 months	9	21 years	1
24 months	15	24 years	1
Total for two years	111	25 years	1

the patient's condition. This observation is particularly true of late congenital syphilis. No examination of a congenital condition suspected of being syphilis is complete unless it includes a complement fixation test of the blood and spinal fluid, and, in our opinion, a careful investigation of the family history for evidence of infection of the parents. Congenital syphilis is always traceable to infected parents, but it is not possible at present to declare the converse, that infected parents always infect their offspring. The opinion held by

TABLE 4.—*Type and Frequency of Principal Symptoms Observed in Study of Two Hundred and Twenty-Five Cases*

	Parent's Infection Determined			Parent Not Infected or Infection Not Determined		
Symptoms*	Rural	Urban	Total	Rural	Urban	Total
Positive Wassermann reaction (child)	7	69	76	11	17	28
Snuffles, rash	2	38	40	5	17	22
Snuffles, rash, teeth (Hutchinson)	2	1	3	1	0	1
Snuffles, rash, nose (destruction)	2	1	3	0	0	0
Pustules on soles and palms	0	2	2	0	0	0
Rhagades	0	2	2	0	0	0
Bone destruction (other than nasal)	0	4	4	0	2	2
Mentally defective	0	3	3	3	1	4
Paraplegia	0	1	1	0	0	0
Nerve deafness	0	1	1	0	0	0
Meningitis	0	4	4	0	0	0
Interstitial keratitis	0	6	6	1	3	4
Glandular enlargement	0	1	1	0	0	0
Hutchinson teeth	0	1	1	0	1	1
Malformation	0	1	1	1	1	2
Malnutrition	2	2	4	0	1	1
Atelectasis	0	1	1	0	0	0
Died in few minutes	0	1	1	0	0	0
Postmortem (laboratory)	0	0	0	0	1	1
No symptoms shown	1	4	5	0	0	0
Total	16	143	159	22	44	66

* Each symptom represents a different case. Whenever there was record of a positive Wassermann reaction, this was given precedence.

Hutchinson, that, after from three to five years have elapsed from the time of the initial infection, the offspring will not be infected, is no longer unanimously agreed to by practicing physicians. Among the diagnostic factors in the cases composing this study, infected parents were the most common, and second to this was the discovery of a positive complement fixation test in the blood serum of the offspring. A tabulation has been prepared classifying the cases according to the principal diagnostic symptom, and distributing them as to whether there was definite knowledge of an infected parent, and also according to residence of patient.

It will be seen from Table 4 that of the sixty-six cases in which parents were not determined to be infectious, twenty-eight cases gave a positive fixation test. Thus, the remaining thirty-eight cases of this group, or 17 per cent. of the total number, were the only cases among the 225 that lacked either a positive fixation test or history of an infected parent to substantiate the diagnosis. This speaks well for the conservatism of the physician, but it indicates also that many cases of congenital syphilis lacking in recognizable symptoms have been overlooked or are being incorrectly diagnosed. Other indications that this number of congenital cases is incomplete are that but few instances were cited of more than one case from the same family, and in no instance was examination of the spinal fluid mentioned.

A great many symptoms were observed by the physicians; but, owing to the fact that half of the patients

TABLE 5.—*Frequency with Which Certain Symptoms Were Observed*

Symptoms	Instances
Parent positive	159
Positive complement fixation test in child's blood	104
Rash	56
Snuffles	52
Interstitial keratitis	31
Malnutrition	10
Bone destruction	10
Hutchinson's teeth	14
Iritis	12
Pustules and exfoliation	10
Glandular enlargement	9
Mentally defective	7
Saddle nose	6
Rhagades	4
Nerve deafness	4
Meningitis	4
Corneal ulcer	3
Enlarged spleen and liver	3
Malformation	3
Arthritis	3
Paraplegia	2
Convulsions	2
Retinitis	2
General paralysis	2
Epilepsy	2
Onychia	1
Atelectasis*	1

* Child lived but a few minutes after birth.

were under 2 years of age, the symptoms of late congenital syphilis were rarely stated. A tabulation of all the symptoms mentioned, sometimes two or more in the same patient, is given in Table 5.

Next to the positive complement fixation test, the most common symptom mentioned is the snuffles-rash symptom complex. It is noteworthy that the Hutchinson triad was not mentioned, although one physician reported nerve deafness and Hutchinson teeth, and several reported interstitial keratitis and marked teeth.

While comparatively few of the symptoms mentioned are disabling, the fact remains that these children are infected, and that, at any time, the activity of the spirochete may manifest itself with more serious symptoms. Interstitial keratitis is one of the conditions incident to older children, usually appearing after the age of 6. In this study, ninety-three patients were beyond that age, and keratitis was noted thirty-one times, suggesting that approximately 33⅓ per cent. of that age group have keratitis. If all the patients with eye involvement are considered together, it is observed

that 21 per cent. of all were suffering with impairment of vision. The bones and joints were involved in 11 per cent. of the cases. This, also, is a condition that is more evident in the later stages, and two thirds of the cases were reported in children between 6 and 14 years of age.

The magnitude of the problem may be suggested by comparing the data collected here with some relating to anterior poliomyelitis. Jan. 1, 1923, the New York State Department of Health had knowledge of 1,497 children crippled by anterior poliomyelitis, 1,061 of whom suffered disablement in the epidemic of 1916 or since. By means of mechanical braces and physiologic exercises, many of these children have almost overcome their handicap. According to our data, there were observed during 1922 1,089 cases of congenital syphilis, in which, during the year, there were 182 deaths. Some are being treated, but the distressing fact still remains that 907 children are harboring in their bodies germs which, although perhaps not active now, may at any time cause permanent disability, if not the death of the patient. Since half of these patients are not more than 2 years of age, we may expect 500 more cases in another two years, unless adequate diagnostic and preventive measures are applied immediately to the pregnant mothers. It is now well known that proper treatment of infected pregnant women will materially reduce the number of congenital infections. All efforts, therefore, should be directed toward securing for every pregnant woman an adequate prenatal examination, and, if infection is discovered, prompt and proper therapeusis.

These observations, covering the state of New York with the exception of New York City, would lead one to believe that congenital syphilis presents a community problem of considerable magnitude and importance, which is neither local nor temporary in character.

132 State Street.

CARBON TETRACHLORID POISONING

REPORT OF TWO FATAL CASES AND A SERIES OF ANIMAL EXPERIMENTS *

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Since Hall [1] proposed about two years ago the use of carbon tetrachlorid for the removal of hookworms harbored in human beings, this substance has been generally recognized as an effective anthelmintic, and is extensively employed for combating hookworm disease in tropical regions. The results have been, in general, better than those with any other drug that has heretofore been used for the same purpose.

Effective as it is, the use of this drug is not always unaccompanied by certain ill effects. There have already been a number of cases reported showing the toxic property of this drug, manifested in ways varying from a mild, transient attack of dizziness, headache and nausea to such severe symptoms as fever, pain, vomiting, or even convulsions and death.

Clinically there is a great deal of individual variation in the reaction to the drug. Many persons show no ill after-effects whatever, others show mild to severe symptoms, while still others die.

Lambert,[2] in his report of three fatal cases, stated that the deaths were probably due to the presence of an impurity in the drug used. In the light of the results of the pathologic findings in the cases reported and of our experiments, recorded later, we are inclined to believe that although the impurity may have played a part in Lambert's cases, it is not a necessary factor in causing either severe symtoms or death.

The coexisting parasitic diseases that the patients may have cannot be the important contributing cause. Malaria and intestinal parasites are of common occurrence among individuals with hookworm infection, and should these associated diseases increase the susceptibility to the drug, we should certainly expect to find more cases showing severe symptoms or coming to a fatal termination.

It may be said, however, that the majority of the fatal cases reported occur in children; and, according to Smillie and Pessoa,[3] alcoholism increases the susceptibility to the drug.

In the fatal cases of carbon tetrachlorid poisoning, a definite lesion in the liver, central necrosis, is usually found. This finding has been confirmed by animal experimentation.[4] There is, however, another lesion which is probably present in all these cases, necrosis of the suprarenal glands.

It is our purpose in this paper to report two fatal cases of carbon tetrachlorid poisoning with their important pathologic findings, and also a series of animal experiments that tend to confirm the general view already held that carbon tetrachlorid may cause central necrosis of the liver, and to suggest that the same drug may cause necrosis of the suprarenal cells.

REPORT OF CASES

CASE 1.—*History.*—L. S., a well nourished negress, aged 5½ years, entered the hospital at 1:50 p. m., May 7. She was given one-half ounce (15 c.c.) of castor oil followed by a soapsuds enema; seven bowel movements resulted, which were examined, but no roundworms were found. On the morning of the 9th, the temperature being normal, 16 minims (1 c.c.) of carbon tetrachlorid was given in water, and this was followed by salts in two hours. Three bowel movements on this date and four the following morning resulted, but no roundworms were passed. The child felt well and was up and about on the 9th and 10th. At midnight on the 10th she became noisy and delirious, vomited "bilious" material, and had intermittent clonic convulsions. Respiration was greatly embarrassed. During the intervals between convulsions she lay quietly in bed; she rolled her eyes, but would not talk. The pulse was strong. Convulsions and embarrassment of respiration grew progressively worse until 1:35 p. m., May 11, when there was total cessation of respiration, although the heart still beat strongly. Death ensued, and immediately the bladder emptied itself of a large quanitity of urine. There was no trismus at any stage, and no elevation of temperature. No medication other than quinin in 5 grain (0.3 gm.) doses by mouth had been given; no solid food was given from the date of admission to the 10th. Laboratory examination on admission showed the blood positive for tertian malaria; the urine was negative; in the stool there were many ancylostome ova and a few trichocephali.

Postmortem Examination.—The heart, lungs, pleura, spleen, suprarenals, and pelvic organs were normal. The liver showed focal necrosis to a very marked degree. In the capsules of the kidneys were a few petechial hemorrhages. Two pyramids in the right kidney stained bright yellow. The appendix was

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* From the Panama Division of the United Fruit Company, and from the pathologic laboratory of the Boston City Hospital.

1. Hall, M. C.: Use of Carbon Tetrachlorid for the Removal of Hookworms, J. A. M. A. 77: 1641 (Nov. 19) 1921; Am. J. Trop. Med. 2: 373-379 (Sept.) 1922.

2. Lambert, S. M.: Carbon Tetrachlorid in Hookworm Disease, J. A. M. A. 80: 526 (Feb. 24) 1923.

3. Smillie, W. G., and Pessoa, S. B.: Am. J. Hygiene 3: 35-45 (Jan.) 1923.

4. Meyer, J. R., and Pessoa, S. B.: Am. J. Trop. Med. 3: 177-196 (May) 1923.

5 inches long, with two sharp kinks, but it was not inflamed. The contents of the colon and cecum had an exceptionally disagreeable odor. The duodenum presented five small hemorrhagic areas. In the jejunum was one ulcer one-fourth inch in diameter; there was no perforation; one roundworm 7 inches long was found. The ileum was normal. There was a small congested area in the fundus of the stomach. The diagnosis, both before and after death, was carbon tetrachlorid poisoning.

Microscopic Examination.—The heart was normal. In the kidney, some of the tubules and the capsular spaces of the glomeruli were distended with bluish or pinkish granules, probably precipitated albuminous material. In the liver, large or small, rounded or irregular, red areas made up from one half to two thirds of the field examined under low power. When a hepatic lobule presented itself in whole, the red area was found to occupy the inner half or two thirds of the lobule, and was generally rounded. In this area, many of the hepatic cells were necrotic, their nuclei had disappeared, and their cytoplasm was stained deeply red with eosin. Also, marked congestion of the sinusoids was present. In the periphery of the lobule, the liver cells showed many mitotic figures. Lymphocytic infiltration of the periportal tissue was well marked.

CASE 2.—*History.*—R. W., a man, aged 46 years, had had fever, vomiting and headache for four days and diarrhea for two days when he was admitted to the hospital. His temperature was 100, pulse 94 and respiration 20. The laboratory reported *Plasmodium vivax* and ova of *Uncinaria* present. Three days after admission he was given 50 minims (3 c.c.) of carbon tetrachlorid in a solution containing 4 drams (15 gm.) of magnesium sulphate. Eight copious movements followed within twelve hours. An intramuscular injection of 15 grains (1 gm.) of quinin was administered ten hours before death. The patient died forty hours after the administration of carbon tetrachlorid.

Postmortem Examination.—The sclera was tinged yellow. The edges of the tricuspid valve of the heart were thickened. The myocardium was slightly more friable than normally. The right lung was congested in its most dependent portion, and was edematous throughout. Five calcified nodules were present in the ventral portion of the lower lobe of the left lung. They were uniform in size, measuring about 2 mm. in diameter. The edges of the liver were sharp. The outer surface was smooth, mottled with violet and lemon colored areas. On section, the surface presented a similar mottling of colors. The gallbladder was normal. The spleen was lobulated, the capsule was normal. The parenchyma was normal in color and consistency except for slight hypertrophy of the stroma. An accessory spleen, 2 cm. in diameter, was present. The pancreas was normal. The capsules of the kidneys were firmly adherent. The outer surfaces were normal in appearance. A cut surface showed moderate congestion of the cortex. The bladder was empty. The suprarenals were normal. There were innumerable petechial hemorrhages into the mucosa or submucosa of the gastro-intestinal tract. The mucosa of the small intestine stained light yellow. The large intestine was apparently normal.

Microscopic Examination.—There was a slight degree of sclerosis of the myocardium. There was a slight lymphocytic infiltration around the bronchioles of the lungs. A few endothelial leukocytes with carbon pigment were present in the stroma. In the spleen were foci of hemorrhage with fibrin and polymorphonuclear leukocytes and diffuse infiltration of splenic pulp with plasma cells and endothelial leukocytes containing brownish pigment. Small areas of hemorrhage and numerous polymorphonuclear leukocytes were present in the mucosa of the stomach. Some of the polymorphonuclear leukocytes had invaded the gastric glands. In the mucosa of the large intestine were a few pigmented endothelial leukocytes. In the pancreas was slight diffuse sclerosis with a moderate number of polymorphonuclear leukocytes and a few pigmented endothelial leukocytes. In the liver, fatty degeneration and extensive necrosis involved the central portion of each lobule and extended toward its periphery, leaving only normal-looking cells around the portal vessels. In the necrotic areas, the cytoplasm of the liver cells stained red; some cells were broken up and had lost their nuclei. Polymorphonuclear leukocytes were present in moderate numbers in the necrotic areas. No mitoses were found in the undamaged liver cells. Numerous endothelial cells containing brownish pigment were present in the sinusoids. In the kidney there were a few areas of sclerosis with lymphocytic infiltration and occasional sclerosed glomeruli. In the suprarenal a number of cells in the zona fasciculata showed beginning necrosis. Some cortical cells were infiltrated with endothelial leukocytes. There were foci of polymorphonuclear leukocytes and lymphocytes both in the cortex and in the medulla.

The microscopic diagnosis was: Central necrosis of the liver; necrosis of the suprarenal cells; acute gastritis (slight).

Results of Experiments

No.	Body Weight, Gm.	Amount of Carbon Tetrachlorid Ingested C.c.	Ratio Between Body Weight and Amount of Carbon Tetrachlorid	Killed or Died	Interval Between Ingestion and Death	Microscopic Findings: Of Liver	Of Suprarenals	Of Spleen, Heart and Kidney
1	350	0.23	1,500 gm. : 1 c.c.	Killed	4½ hours	Slight necrosis	Negative	Negative
2	445	0.30	1,500 gm. : 1 c.c.	Killed	4½ hours	Slight necrosis	Negative	Negative
3	545	0.36	1,500 gm. : 1 c.c.	Killed	10½ hours	Slight necrosis	Marked necrosis	Negative
4	380	0.25	1,500 gm. : 1 c.c.	Died	About 12 hours	Slight necrosis	Negative	Necrosis of cardiac fibers; lymphocytic infiltration of myocardium
5	485	0.32	1,500 gm. : 1 c.c.	Killed	22 hours	Marked necrosis	Marked necrosis	Negative
6*	350	0.23	1,500 gm. : 1 c.c.	Died	About 30 hours	†	†	†
7	410	0.26	1,500 gm. : 1 c.c.	Killed	40½ hours	Marked necrosis, many mitoses	Marked necrosis	Negative
8*	350	0.23	1,500 gm. : 1 c.c.	Died	About 48 hours	†	†	†
9	480	0.32	1,500 gm. : 1 c.c.	Killed	60 hours	Marked necrosis, mitoses	Marked necrosis	Negative
10	400	0.26	1,500 gm. : 1 c.c.	Killed	76 hours	Marked necrosis, mitoses	Slight necrosis	Negative
11	570	0.37	1,500 gm. : 1 c.c.	Killed	4 days	Slight necrosis, incomplete regeneration	Marked necrosis	Negative
12	420	0.28	1,500 gm. : 1 c.c.	Killed	5 days	Slight necrosis	Slight necrosis	Negative
13	390	0.26	1,500 gm. : 1 c.c.	Killed	5 days and 6 hours	Slight necrosis, incomplete regeneration	Negative	Negative
14	380	0.25	1,500 gm. : 1 c.c.	Killed	6 days	Very slight necrosis, incomplete regeneration	Negative	Negative
15	450	0.30	1,500 gm. : 1 c.c.	Killed	7 days	Slight incomplete regeneration	Negative	Negative
16	510	0.34	1,500 gm. : 1 c.c.	Killed	8 days	Negative	Negative	Negative
17	420	0.28	1,500 gm. : 1 c.c.	Killed	9½ days	Negative	.....	Negative
18	410	0.26	1,500 gm. : 1 c.c.	Killed	11 days	Negative	Negative	Negative
19	410	0.057	6,000 gm. : 1 c.c.	Killed	48 hours	Moderate necrosis	Marked necrosis	Negative
20	460	0.075	6,000 gm. : 1 c.c.	Killed	7 days	Very slight necrosis	Negative	Negative

* These two pigs were among the shipment of young pigs that the pathologic laboratory of Boston City Hospital had just received from Philadelphia. These young pigs, after a long trip under unfavorable conditions, apparently became more susceptible to carbon tetrachlorid.

† On account of marked postmortem change, no tissue was saved for microscopic examination, but the presence of necrosis in the livers was definite in gross.

ANIMAL EXPERIMENTS

These clinical histories, together with the pathologic findings in the livers and the suprarenal glands, led us to do experimental work on guinea-pigs. Pure carbon tetrachlorid, which is used by the Boston City Hospital to treat hospital patients, was fed by mouth. The dosage was from 1 c.c. for every 6 kg. of body weight to 1 c.c. for every 1.5 kg. of body weight—approximately three to twelve times larger than the therapeutic dose. The pigs each received one dose according to body weight, and were killed after varying lengths of time. Necropsy was immediately done, and the organs were removed and fixed in Zenker's fluid.

A few general statements can be made from the findings in the accompanying table.

1. Two organs are affected by carbon tetrachlorid, the liver and the suprarenal glands.

2. The lesion in the liver is of the "central necrosis" type.

3. The extent of the lesion is in direct proportion to the size of the dose.

4. When the dose is sufficiently large, necrosis of liver cells begins within four and a half hours, and becomes very marked after twenty hours. At the end of forty hours, evidence of regeneration is prominent. On the fourth and the fifth day, the necrotic cells are removed at a greater speed than the new cells can be regenerated; hence the temporary absence of any liver cells in the immediate vicinity of the central vein. At the end of eight days, however, the regeneration is complete.

5. The suprarenal glands show necrosis of cells of the inner portion of the zona fasciculata and of the zona reticularis.

6. In the same animal, the necrosis of suprarenal cells appears later and disappears earlier than the necrosis of the hepatic cells. It usually becomes most marked when the lesion in the liver is most marked.

COMMENT

In comparing the lesions in the livers and suprarenal glands of the fatal human cases, on the one hand, and those in the livers and suprarenal glands of the experimental animals, on the other, one cannot fail to note the striking similarity, which clearly indicates that these lesions are produced by the same agent, carbon tetrachlorid. The relation between this drug and central necrosis of the liver and necrosis of the suprarenal cells is made still more apparent when we recall that central necrosis of the liver and necrosis of the suprarenal glands are characteristic features in cases of poisoning with chloroform. The chemical composition of chloroform is closely related to that of carbon tetrachlorid.

Necrosis of the suprarenal cells is probably a constant feature in fatal cases of carbon tetrachlorid poisoning, although, as a rule the lesion is not marked. It usually appears later and disappears earlier than necrosis of the liver cells, and may easily pass unnoticed on microscopic examination or actually be absent at the time of death.

The rapidity with which the liver cells around the necrotic areas regenerate is very striking. When the lesion is extensive, as in the liver of our first patient and in Pig 7 killed at the end of forty hours, there are a large number of mitotic figures, as many as four to five in a high dry field. It is therefore not surprising to find a liver that was as much as one-half to two-thirds destroyed at the end of the first or the second day almost fully regenerated at the end of the fifth day, and completely regenerated at the end of the eighth day. Such a rapid regeneration has very likely led Leach[5] and others to a wrong conclusion, namely, that the liver of a patient fed with large doses of carbon tetrachlorid was normal. Their postmorten examinations were made on patients that died ten or more days after the dose was given. At the end of such an interval, the necrotic cells will have been all removed and new cells completely regenerated to take their places. Such a negative finding, therefore, does not of necessity mean that there has been no necrosis. Indeed, it is probable that the severe symptoms that are sometimes present following the ingestion of the drug are in large part associated with central necrosis of the liver.

SUMMARY

1. In the two fatal cases of carbon tetrachlorid poisoning reported, the chief pathologic finding was central necrosis of the liver. In one case, the suprarenal glands showed necrosis of the cortical cells. The suprarenal glands in the other case were not preserved.

2. Carbon tetrachlorid produces central necrosis of the liver and necrosis of the suprarenal cortex in guinea-pigs.

3. Regeneration of liver cells following central necrosis is very rapid.

4. The symptoms following ingestion of the drug in human cases are probably associated with the presence of central necrosis of the liver, and the absence of this lesion in the previously reported cases is probably due to the rapid regeneration of the liver cells.

DIAGNOSTIC PROBLEMS IN PNEUMONIA *

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In this paper I shall endeavor to set down some of the accumulated thoughts on the diagnosis of pneumonia that the years have brought me. The nature of the subject will compel me to roam over a wide, more or less formless, field. I shall not attempt a formal presentation of the subject, but shall consider those manifestations of the disease that do not have their diagnosis written plainly on them.

Typical cases of pneumonia, like typical cases of any other disease, are easy of recognition, provided we are sufficiently alert. But a curious amaurosis occasionally afflicts the wisest physicians and makes them temporarily blind to the obvious. They do not see the forest for the trees. In a measure, we can guard against such a psychic lapsus by doing what Sir William Osler once advised a student to do when the latter failed to see some large glands on the opposite side of a patient's neck; namely, "to walk around," to get a fresh point of view.

POSTOPERATIVE PNEUMONIA

Pneumonia is often overlooked because it does not present the classical symptoms and signs by which we are wont to recognize it. This holds true particularly in pneumonia following operations. There may be no cough, no pain, at least not any pain that subordinates the postoperative pain; there may be a little fever and a moderate increase in the respiration rate. The lesion is rarely in front. If, therefore, one fails to examine

5. Leach, C. N.: Carbon Tetrachlorid in Hookworm Disease, J. A. M. A. 78:1789 (June 10) 1922.

* Read in part before the Lackawanna Medical Society, Scranton, Pa., and the Williamsburg Medical Society, Brooklyn.

the back, a small patch in one of the lower lobes may be overlooked. It is often possible to slip the stethoscope to the likely place; sometimes one can find a patch in the axilla.

The nature of these postoperative pneumonias has given rise to much discussion. At the present moment it is generally agreed that the cause is a collapse or atelectasis of a part of the lung, and that this collapsed area afterward becomes consolidated.[1]

Collapse of the lung, with subsequent infection, seems to follow more often on abdominal operations than on those on the chest or on the extremities. Pelvic operations are less likely to have pneumonia as a sequel than operations on the upper abdomen.

Sometimes following operations there is a massive collapse of the lung, a very rare postoperative condition manifesting itself by absent breath sounds, with dulness or dull tympany on percussion and displacement of the heart toward the side of the lesion. Usually after a few days the breath sounds over the dull area become bronchial, so that the clinical picture as well as the morbid process is that of lobar pneumonia. These findings can be confirmed by roentgen-ray examination.

The mortality of postoperative pneumonia is variable. In the sixty-three cases reviewed by Elwyn from the surgical wards of Mount Sinai Hospital, New York, there were nine deaths, or 14.28 per cent. In my own experience, which is much more limited in this type of pneumonia, the mortality was not quite so high. In very rare instances, a postoperative consolidation is found at the apex. The mode of onset, the physical signs, the apparently definite relation to the anesthesia or to the operation seem to warrant a diagnosis of lobar pneumonia, but one must always be careful in apical cases of this character, as the following example will illustrate:

A man in the prime of life, and apparently well otherwise, had been operated on for strangulated hernia. Two or three days afterward he developed what appeared to be a typical pneumonia of the right upper lobe. As in my experience ether pneumonias usually result in recovery, I predicted a favorable outcome. However, we waited and waited for the resolution, which did not take place. We made sputum examinations many times for tubercle bacilli; eventually after weeks they were discovered, and gave proof of what we had been forced to suspect, that the seemingly plain postoperative lobar pneumonia had been a case of tuberculous pneumonia.

TUBERCULOUS PNEUMONIA

Spontaneous tuberculous pneumonia at times resembles ordinary lobar pneumonia so closely that, in the beginning at least, the correct diagnosis is well nigh impossible, and that fact often leads to embarrassing situations. The following is a case in point:

A young man had been roller skating to excess. One night, on leaving the rink, he got chilled. When I saw him with his physician a few days later, I found a consolidation of the right upper lobe, typical in its auscultatory signs but a little more marked on percussion in the supraspinous fossa than in front. The history seemed so clear, as to cause and effect, that no other diagnosis than that of pneumococcic lobar pneumonia seemed possible. There was, however, no leukocytosis. Herpes also was absent. The case turned out to be one of tuberculous pneumonia, and the man died three or four months later of a sudden pneumothorax.

A correct diagnosis is facilitated by bearing in mind that:

1. Acute cases of tuberculous pneumonia nearly always affect the upper lobe.

2. Painstaking examination will show some slight aberration in the physical signs—perhaps persistence of the lesion in the supraspinous fossa, with delayed or absent involvement anteriorly.

3. The patient often has had a period of ill health prior to the acute onset. Indeed, he may have had a tuberculous process of some sort, pulmonary or pleural.

4. Leukocytosis is usually absent, but I have seen once or twice a well marked increase in the white cells in acute tuberculous pneumonia.

CLINICAL PNEUMONIA WITHOUT CHEST SIGNS

Another puzzling group includes those cases in which there are clinical symptoms of pneumonia but no physical signs in the chest. In children the throat should always be examined, as tonsillitis sometimes has a very acute and stormy beginning not unlike that of pneumonia. But the most probable cause is a central pneumonia. Some writers deny the existence of central pneumonia, but it seems to me a perfectly rational assumption. A very careful examination may even in central pneumonia reveal certain signs that sustain the suspicion. One of these signs is a change in the percussion note over a small patch, usually inside or just below the angle of the scapula or high up in the axilla. Another is suppression or muffling of the breath sounds over this area. Perhaps, on coughing, a few fine râles will appear at the end of inspiration. These signs can be detected only if one goes over the chest inch by inch.

PNEUMONIA AND PLEURISY

Pneumonia and pleurisy are often confounded. I do not mean plastic or fibrinous pleurisy, which is itself almost an invariable accompaniment of lobar pneumonia. I mean pleurisy with effusion. The error is due to the fact that in some effusions, for reasons I need not dwell on, one can hear well defined bronchial breathing and bronchophony over the flat area. Even a modified pectoriloquy may be heard. Mistakes are avoided by remembering that:

1. The tactile fremitus in effusion is diminished or absent.

2. If the hands are moved up and down the sides of the chest, if an effusion is present, the interspaces on the affected side are flush with the ribs, so that the latter are less plainly felt.

3. The percussion note is flat rather than merely dull, and the resistance to the experienced percussor is greatly increased. The dulness may be movable with change of posture. Grocco's triangle is also of help.

4. There are no râles, as a rule, over the effusion; breathing is usually dry and the cough sounds distant. However, this is by no means invariable; if the underlying lung is congested or consolidated, râles may come through.

5. The voice sounds have a high pitch, a bleating, twanging quality called egophony.

6. The apex beat is usually displaced in the opposite direction.

7. Exploratory tapping or the roentgen ray may be necessary to settle the diagnosis.

PNEUMONIA SIMULATING TYPHOID

That pneumonia may sometimes simulate typhoid or parathyphoid fever is illustrated by the following case, seen with Dr. Kohlman, Sept. 21, 1923:

A man, aged 22, went to a party, drank some cider, came home at 11 o'clock feeling sick and feverish, and at 4 in the morning had a chill and fainted. When seen by Dr. Kohl-

1. Elwyn, Herman: Postoperative Pneumonia, J. A. M. A. 82: 384 (Feb. 2) 1924.

man, he had headache, general aching pains, some nausea and vomiting, no cough whatever, and a temperature that ranged from 99 to 101. The leukocytes numbered 9,400, with a polymorphonuclear count of 74 per cent. The respirations were 24; the pulse was from 80 to 86. Four days later a little coughing began with scanty expectoration; the spleen was enlarged on percussion; the pulse was dicrotic. There were no rose spots; the Widal test was negative.

The only significant thing that I was able to find was a little impairment in the right lower lobe below the angle of the scapula. The voice sounds were a little harsher, and a few very fine, crackling râles could be heard. Respiration was not materially increased; the temperature was about 103, and the pulse was in the eighties. The blood pressure was 122 systolic, 55 diastolic. There was no herpes, and no complaint except continuing headache. At that time the patient had been ill five days. All the symptoms, taken with the low leukocyte count, justified the suspicion of typhoid or paratyphoid; rather the latter on account of the acute onset. Within thirty-six or forty-eight hours the case became clear through the appearance of a definite consolidation of the right lower lobe, confirming the importance of the slight physical signs that I had found in the lung on my visit.

In another case that I saw a number of years ago—that of a boy, aged 14 years, which had been diagnosed as typhoid fever—a little herpes on the upper lip induced me to make a very thorough examination of the chest. I found a small consolidated patch posteriorly, which shortly afterward expanded into a large one.

ABDOMINAL PNEUMONIA

A type of case that may throw the best clinician off his guard is that in which the symptoms of pneumonia are, in the beginning, abdominal. These abdominal pneumonias are perhaps a little more common in children, but I have seen them in adults, and when they occur they may simulate appendicitis, gallstone colic, or perforation of a peptic ulcer. I have known a patient to be made ready for the operating table as having appendicitis and to escape the operation by only a hair's breadth.

There are two things about such cases that suggest abdominal conditions—the location of the pain in either the upper or right lower abdomen, and the occurrence of vomiting. Now, vomiting in pneumonia, in my experience, happens most often if the initial chill takes place soon after a meal. There is but one good rule to follow, and that is in every case of acute abdominal trouble to make a thorough examination of the chest, with the thought in mind that the case might be one of pneumonia or more rarely one of pleurisy.

APPENDICITIS AND MENINGITIS

The leukocyte count is high both in pneumonia and in appendicitis. As a rule, however, the count is higher in the former than in the latter. It is a good rule, whenever the white cells are above 20,000, to suspect the lungs and to explore them thoroughly.

The occurrence of meningeal symptoms may obscure a pneumonia, or, when that is known to exist, may raise the question of the presence or absence of meningitis. Fortunately, the latter is a rare complication of pneumonia, and symptoms suggesting it are usually due to a toxic meningism. However, it may require lumbar puncture for final judgment. The discovery of a pneumococcic meningitis usually spells the patient's doom.[2]

2. Quite recently, Dr. J. A. Kolmer of Philadelphia (personal communication to the author) has seen recovery in a case of pneumococcic meningitis from the combined use of Huntoon's antibodies and ethylhydrocuprein.

SENILE PNEUMONIA

Pneumonia in the aged—that common passport into the undiscovered country—is often difficult of recognition because it is not frank in onset or clearly defined in course. There may be only a slight cough, no leukocytosis, and little or no fever. This last statement regarding the trivial nature or the absence of fever is one to which I think most men would subscribe; nevertheless it requires revision. I have often found that in old persons, especially in those with false teeth, it is impossible to get the temperature correctly in the mouth. Only a rectal temperature will give accurate reading, and when the temperature is taken in that manner it will be found that many seemingly afrebrile patients really have fever.

What I have said about senile pneumonia is equally true of the so-called terminal pneumonias—those that arise at the end of lingering diseases and usually go unrecognized because unsuspected and not betraying themselves by characteristic signs. A flush on the cheek, a single herpes vesicle, a slight increase in respiration rate—any one of these may give the requisite hint, but it must be looked for.

OTHER DIAGNOSTIC PERPLEXITIES

A curious confusion may arise during the course of acute pericarditis. With the development of an effusion of considerable size, we often can detect over the left lung posteriorly percutory and auscultatory signs of pneumonic consolidation. The first case of this type that I recall happened during my internship at the Philadelphia General Hospital. My chief, the late Dr. F. A. Packard, was convinced, and naturally I was also, that the patient had lobar pneumonia. The necropsy showed pyopericardium and no lobar pneumonia. I have seen similar cases since, and I am sure that the condition is among the most perplexing in the realm of physical diagnosis. The condition might be properly called pericarditic pseudopneumonia. Without experience, one will surely consider it true pneumonia and nothing else. Its diagnosis hinges on the remembered fact of its existence. The anomalous signs are due to compression of the lung by the effusion.

The following case illustrates a rare diagnostic perplexity:

Mrs. F., a pregnant woman, suddenly was seized with chill, fever, and pain in the lower right chest and flank. Her physician naturally suspected lobar pneumonia. When I came to examine her I found nothing whatever in the lungs but detected a sharp point of tenderness in the right loin and obtained a history of slight urinary disturbance. I ventured a diagnosis of acute pyelitis, which was borne out by examination of the urine and by the subsequent course of the case. Pyelitis is a frequent mischief maker for the diagnostician—it must be kept in mind whenever a protracted fever has no obvious explanation.

The influenza epidemic of 1918 was a great but costly teacher of pneumonia and its vagaries. Unhappily, those of us who were engaged in practice at that time, either civil or military, were too rushed to gain all the possible advantages the experience afforded. Nevertheless, as a lesson in physical diagnosis, the epidemic was unsurpassed.

Let me recall a few points learned in that trying time that have a bearing on our present problem. It will be remembered that pneumonia was extremely common. In the opinion of many, it was a complication. I myself believe that it was due to the same cause as the influenza. Sometimes it was difficult of detection. But

multiplying observation taught me that if I paid special attention to an area just within or just without the angle of the scapula, I was usually able to detect a slight change in the percussion note—a shortening rather than an actual dulness—or an enfeeblement or suppression of the breath sounds. In cases a little more advanced a few râles could be heard, especially after a short cough.

I want to emphasize the *sign of suppressed breathing*. It is present very early in lobar pneumonia, whether influenzal or pneumococcic, and, I believe, has not received adequate attention in books on physical diagnosis. Later, of course, the breathing becomes loud and high pitched, the well known bronchial breathing of consolidation.

Jaundice in pneumonia brings up the questions of etiology and prognosis. Answering the latter first, I should say that, by and large, jaundice makes the prognosis more grave. This is particularly true if the jaundice appears early and is pronounced. If it develops in the latter part of the illness, it has a far less serious significance. As for the cause of the icterus, there are several possibilities:

1. A cholangeitis or hepatitis. In favor of this is the usual demonstrable enlargement of the liver; moreover, a number of observers [3] have found the lesions of cholangeitis at necropsy with involvement of the gallbladder. However, the evidence is not yet conclusive.

2. Hemolytic jaundice. It is probable that the severe forms of jaundice appearing in the early stages of pneumonia are of a toxic or hemolytic origin. The color is usually a deep yellow; the liver is enlarged and tender. There is pronounced tympany. The urine, as a rule, shows the signs of a toxic nephritis—albumin, tube casts and blood are present; the urine contains a large amount of bile; the feces are somewhat light in color, but are not devoid of bile pigments.

PROBLEMS IN DIAGNOSIS ARISING DURING THE COURSE OF PNEUMONIA

Perhaps the most frequent problem is the explanation of failure of resolution. We are accustomed in lobar pneumonia to look for a crisis on the hippocratic critical days, the seventh and the ninth; and in the majority of cases ending favorably we do not look in vain. When the crisis does not occur, search must be made for the reason. The most common cause, especially in children, is the presence of empyema, free or interlobar. Empyema may be suspected if the temperature is irregular, if sweats occur, and if there is a rapid development of anemia. An unhealthy pallor in a child having had pneumonia is a very suggestive symptom.

As regards the physical signs of empyema, I need say little. Not one is absolutely diagnostic except puncture of the chest. A highly resistant flat percussion note, movable dulness and displacement of the apex beat indicate fluid. The roentgen ray is of great value and should be resorted to in doubtful cases.

Interlobar empyema is difficult of recognition. There may be a point of tenderness that helps to locate the trouble and gives a hint as to where the needle should be inserted.

A word more about empyema, and that is concerning its prognostic significance. From some striking experiences I have obtained the impression that the occurrence of empyema may mean that a patient with an apparently hopeless case of pneumonia is going to recover. The story of a particular case will make clear what I want to say:

> A lad of 17 had double pneumonia; his condition was so desperate that the late Dr. Musser, who saw him with me, held out virtually no hope. In a few days there were signs which, on puncture, proved to be purulent. A thoracotomy was done and the patient recovered.

It is an age-old experience that the formation of an abscess is in certain diseases a favorable omen; this, I believe, applies to pneumonia with empyema.

Abscess of the lung is more frequent than is usually believed, but is hard to differentiate from empyema. The symptoms are much the same as those of empyema. There may be purulent sputum. In pneumonia of the upper lobe wtih symptoms of sepsis, the immovability of the exudate and its sharp restriction to the affected lobe are suggestive of abscess.

Another cause of delayed resolution is pericarditis, which is not an infrequent complication of lobar pneumonia, especially of the left lung. It is surprising how easy it is to overlook this—perhaps, because of the noisiness of the respiration, the friction sound over a small area is not heard; perhaps also because in the examination of the heart some listen only at the apex, a point at which friction is seldom heard initially. Careful auscultation over all parts of the heart, particularly while the patient holds his breath, may reveal a friction sound.

Middle ear disease, parotitis and phlebitis are conditions that may interfere with the occurrence of a crisis at the proper time.

Delayed or absent resolution is sometimes, as I have indicated in an earlier part of this paper, an expression of a tuberculous process, the case being either one of primary caseous lobar pneumonia or the lighting up of an old tuberculous focus during the acute pneumococcic process.

In very rare instances, slow resolution is dependent on slow liquefaction of the exudate through lack of proper ferment action, and will eventually take place.

Organization of the exudate, with the development of fibrosis of the lung, is a rare cause of delayed or absent resolution.

During the influenza epidemic, I saw a number of cases of pneumonia in which the fever subsided promptly, but in which nevertheless the physical signs persisted for a long time. The residual condition seemed to be one of lobar pulmonary edema rather than of consolidation. The problem was to know when to permit the patient to get up. At the same time, the reason for the persistence of the edema remained unsolved.

A rare complication capable of presenting great diagnostic difficulties is acute dilatation of the stomach. The symptoms [4] are vomiting, abdominal pain and distention, visible gastric peristalsis, obstipation, rarely diarrhea, and collapse unless proper treatment is promptly instituted. Proper treament consists of gastric lavage through a stomach tube.

Though perhaps not altogether germane, I feel I ought to say a few words about an inflammatory lung affection that is most puzzling diagnostically and prognostically. I refer to a lobar form of bronchopneumonia seen especially in children and young adults and giving rise to a low protracted fever. The symptoms are slight, often minimal—a little cough, a sub-

3. Anders: Am. Med., March 18, 1905. Clairmont: Wien. klin. Wchnschr., Oct. 26, 1899.

4. Fussell: Am. J. M. Sc. 142:794, 1911.

febrile temperature, scanty expectoration and prostration somewhat disproportionate to the symptoms.

The physical signs are, in a sense, much more striking than one would expect from the symptoms, and yet they are frequently overlooked because they are usually confined to one lower lobe and are chiefly auscultatory in character. They consist of a shower of crackling râles on inspiration, more abundant and louder, as a rule, after coughing.

Many physicians have the practice, in ambulatory cases—and the patients I speak of are usually ambulatory—of examining only the upper lobes, often only the first two interspaces anteriorly. Such restriction of the physical examination is the cause of a multitude of diagnostic errors.

The condition of which I am speaking, which I have called the lobar form of bronchopneumonia,[5] I have found diagnosed as typhoid fever and as tuberculosis. The former error is due to the complete overlooking of the lung condition; the latter arises from a false interpretation of the physical signs and symptoms. If it is remembered that primary tuberculosis of the lower lobe is exceedingly rare, the second mistake is not likely to be made.

I shall not discuss the causes of the lobar form of bronchopneumonia except to say that it may be of influenzal origin. What I chiefly wish to do is to emphasize the importance of examining the bases of the lungs, posteriorly and laterally, in all cases.

PNEUMONIA IN CHILDREN

I have already referred several times to pneumonia in children, and will now sum up the salient points of this phase of the subject.

1. Lobar pneumonia is more common in infants and children than the textbooks teach. Even the pneumonia of measles is often typically lobar.

2. The physical signs of primary lobar pneumonia are at times late in appearing. The combination of high fever with leukocytosis is suggestive.

3. The signs may be apical or basal; sometimes they appear first in the axilla.

4. An expiratory grunt is a very suggestive symptom.

5. Convulsions, delirium and meningeal symptoms are common in young children.

6. Abdominal symptoms, pain and vomiting may be altogether of thoracic origin.

7. Empyema is a frequent termination, and manifests itself by continuing fever, pallor, sweating, etc.

8. Primary lobar pneumonia in children is a very benign disease; even if empyema develops, the prognosis is good, conditioned, of course, on proper treatment.

1520 Spruce Street.

5. Riesman, David: Am. J. M. Sc. **146**: 313, 1913; Tr. A. Am. Phys. **28**: 430, 1913.

Mortality from Tuberculosis in 1922 in U. S. Registration Area.—The Department of Commerce announces that compilations made by the Bureau of the Census show that 90,452 deaths were due to tuberculosis in the registration area of the United States in 1922, with a death rate of 97 per hundred thousand population. This is a drop of 2.4 since 1921, in which year the rate was 99.4 per hundred thousand population. Though twelve states show increases in rates for 1922, in twenty-two states there are decreases, indicating that the general trend is still downward. The highest adjusted rate from tuberculosis for 1922 is 172.6 per hundred thousand population for Colorado and the lowest is 36.1 for the adjoining state of Nebraska.

THE RELATION OF THE DICK TEST TO SCARLET FEVER*

CHARLES F. BRANCH, M.D.
AND
F. GILL EDWARDS, M.D.
BOSTON

G. F. and G. H. Dick[1] recently reported the results obtained by them from the use of a specific streptococcus filtrate in an intradermal test for immunity against scarlet fever. Our purpose in this paper is to present the data accumulated in our series of cases using the same streptococcus filtrate.

Through the courtesy of the Dicks, a small quantity of their original W filtrate, diluted 1:1,000, was obtained and used in our experiments. The filtrate, as we understand it, is from a hemolytic streptococcus isolated in pure culture from a case of scarlet fever.

Our experiments, with those of the Dicks, give a series of only 301 cases; but the results are so strikingly similar, yet done under such varied circumstances, that one series checks the other very well.

In making these tests and in reading them, we observed the technic and standards adopted by the Dicks. The test consisted of an intracutaneous injection of 0.1 c.c. of the 1:1,000 W filtrate, usually on the anterior surface of the forearm, but in some instances of the abdomen. A standard tuberculin syringe and a No. 26 gage needle were used. One half of the filtrate received from the Dicks we heated at 90 C. for one hour and used as a control in all cases tested. Using the same method and a different set of syringes and needles, we injected 0.1 c.c. of our control intracutaneously, at a point never closer than 7 cm. to the filtrate test. Our control tests were negative throughout.

In reading the tests at the end of twenty-four hours, the following standards were adhered to:

Slightly Positive.—Faint red area less than 2 cm. in diameter, without swelling or tenderness of the skin.

Positive.—Bright red areas, from 1.5 to 3 cm. in diameter, with some swelling and occasional tenderness.

Strongly Positive.—Areas measuring more than 3 cm. in diameter, with redness, swelling and tenderness.

The initial wheal disappears in a few minutes. Positive reactions begin to appear as a circular area of erythema in about six hours. This gradually increases, reaching a maximum intensity with swelling, redness and tenderness in from eighteen to twenty-six hours after the injection. In forty-eight hours this area has lost its swelling, and the color has usually faded to a faint yellow. The week following the test, this area was found to be desquamating in several instances.

For convenience in presenting our work, we will consider three groups:

Group A consists of sixty-five patients convalescing from scarlet fever, all of whom were negative. Three of these patients, including children between the ages of 3 and 12 years, were tested during the first four days of the acute stage of the disease, at which time they gave slightly positive reactions. Testing these three patients again after two weeks, and without any convalescent serum having been used in their treatment, we found them all to be negative. The ages in this

* From the pathologic laboratory of the Boston City Hospital.

1. Dick, G. F., and Dick, Gladys H.: Experimental Scarlet Fever, J. A. M. A. **81**: 1166 (Oct. 16) 1923; The Etiology of Scarlet Fever, ibid. **82**: 301 (Jan. 26) 1924; Scarlet Fever Toxin in Preventive Immunization, ibid. **82**: 544 (Feb. 16) 1924.

group differed from 2 to 35 years. Tests were made during a period from the second to the fifty-fifth day of the disease.

Group B consists of sixty-two patients with no history of scarlet fever. Twenty-nine of these were slightly positive, positive or strongly positive, and thirty-three of these were negative. The ages varied from 2 to 11 years. Most of these children were from good homes where their medical history was perfectly known.

Group C consists of eighteen patients with no history of scarlet fever. They range in age from 3 months to 11 years. Of this group there was one positive and two strongly positive reactions, in children respectively 1, 11 and 2½ years old. This gives a percentage of 16.6 positive for this group, which is not at all in accord with the 46.6 per cent. positive findings in Group B.

Two causes suggest themselves for this discrepancy.

1. There are three infants in Group C who are 6 months old or under that are negative. Eliminating these, however, brings the percentage up to only 20.

2. Because of the most unsatisfactory histories obtainable in this particular group of infants, a reasonable doubt arises as to whether some of them may not have had scarlet fever. If this was the case, the disproportionately large number of negative reactions obtained would be accounted for.

We feel most strongly that a combination of these two factors was responsible for the great difference in the results of Groups B and C.

That these reactions were definitely due to a streptococcus poison of some kind was shown by the Dicks, who demonstrated that the undiluted fluid from a sterile culture medium was entirely innocuous. Furthermore, that this substance is thermolabile is shown by the Dicks and by us in our series of control injections.

Negative results in convalescent scarlet fever were not due to an inability of the skin to react, because a number of the patients had positive Schick tests on one arm at the same time that the filtrate gave a negative test on the other arm or on the abdomen.

Summary of Results

Kind of Subject	Number Tested	Negative	Slightly Positive	Positive	Strongly Positive	% Positive
Acute cases of scarlet fever....	3	0	3	0	0	100
Group A, convalescent from scarlet fever.....	65	65	0	0	0	0
Group B.....	62	33	11	18	0	46.6
Group C.....	18	15	0	1	2	16.6
Groups B and C; persons with no history of scarlet fever...	80	48	11	19	2	40
Control with heated filtrate...	148	148	0	0	0	0

SUMMARY

All convalescent scarlet fever patients gave negative reactions.

Three pateints acutely ill with scarlet fever gave slightly positive reactions, which were negative in their convalescent period two weeks later.

The filtrate with which the Dicks produced 41.6 per cent. positive or strongly positive skin tests gave 40 per cent. positive or strongly positive reactions in our hands.

The control used by us was negative in all cases tested.

CONCLUSION

The skin test described, using the filtrate of the Dicks, apparently has a specific relationship to immunity to scarlet fever.

Clinical Notes, Suggestions, and New Instruments

A NEW OPERATION FOR SLIPPING PATELLA

ROBERT SOUTTER, M.D., BOSTON

An extreme case of slipping patella was observed in the Children's Hospital, in a girl aged about 9 years, with a double congenital dislocation of the patella gradually increasing in laxity. The ordinary methods of treatment did not seem appropriate or adequate. The left patella constantly and without warning would dislocate over the external condyle, causing the child to fall without warning. The action of the quadriceps was uncertain, and walking was not sure.

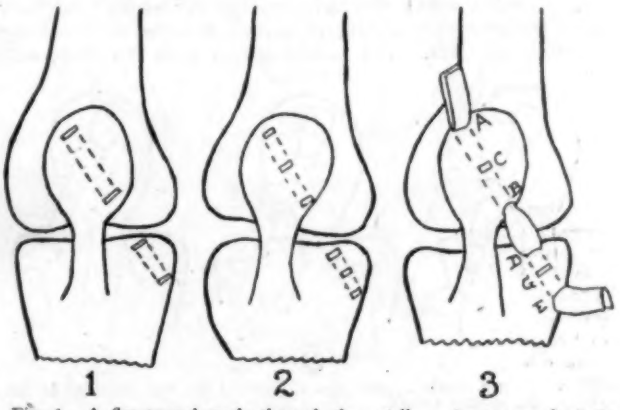

Fig. 1.—A flat tunnel made through the patella and upper end of the tibia ready to receive the folded fascia.
Fig. 2.—An opening made in the top and middle of each tunnel.
Fig. 3.—Fascia folded double and passed through the tunnels.

The child was healthy and normal. Examination of the legs showed good muscle tone and normal range of motion of the hips, knees and feet. Everything was normal except for the knees. One was impressed with four things: (1) the looseness of the patellar ligament and all the tissues to the inner side of the patella; (2) the ease with which the patella could be placed over to the outer side, so far over that the internal edge of the patella could be made to point forward; (3) the possibility of easy and painless passive motion in flexion with the patella in this position to the side; (4) the absence of swelling or abnormality otherwise. A similar condition was present in the right knee, but to a less degree. The complete relaxation made it evident that the usual patella tendon splitting operation, so successful usually, would not control the extreme lateral mobility. It was decided to anchor the patella to the tibia with an artificial ligament extending at an angle of 45 degrees. Fascia ligaments have proved tough and lasting, and have been used successfully for many years. It was decided to make a fascial ligament from the patella to the tibia and to attach it as follows:

A strip of fascia about 6 inches long and 1½ inches wide was removed from the fascia lata. It was folded once and laid out flat about one-half inch wide. This was attached from the patella to the tibia, extending at an angle of about 45 degrees. The distance between the patella and the tibia remains constant. For this reason the fascia was attached to the tibia, the bones being tunneled and the fascia looped through it in such a way as to be self-retaining. A longitudinal incision slightly to the inner side of the median line was made and retracted, exposing the inner side of the tibia and the whole of the patella still covered with fascia. A flat tunnel at an angle of 45 degrees with the median line of the leg was made in the patella with an osteotome three-eighths inch wide. A similar tunnel at an angle of 45 degrees with the line of the tibia was made in the tibia. In order to have the pull of the new ligament at an angle of 45 degrees, the tunnel in the tibia should be at the side of the tibia. The patella and tibial tunnel should be made in one line. The

patella is pushed slightly to the inner side before the new ligament is fastened. The double fascia was laid flat and passed in the tunnel at *B*, brought out at *A* and reinserted in the top of the tunnel at *C*, and drawn out again at *B*. The other end of double fascia was drawn flat through the tunnel *D E* in the tibia, then inserted in a hole in the tibial periosteum and fascia, at *G*, and withdrawn at *D*. This rendered the fascia self-retaining, but sutures were placed where the fascia overlapped. The result nine months later has been very satisfactory. The pafella excursion is normal, with all degrees of flexion and the function of the knee excellent. The left patella has been operated on in a similar way.

Two other means of operative treatment were considered in this case—the method of Gallie, fastening the patella to the condyle of the femur, and the method devised by Goldthwait, of transplanting inward the outer half of the slit patella tendon. In the case here reported, half of the split patellar tendon would not have reached far enough laterally to give the necessary stability. It seemed better to attach the patella to the tibia. The patella moves with the tibia, and,

Fig. 4.—Upper fascia looped down through the top opening at the middle of the patellar tunnel.

Fig. 5.—Lower fascia looped down through the opening at the middle of the tibial tunnel.

Fig. 6.—Extra-articular fascial ligament in place.

whatever the position of the knee, the patella and tibia retain the same relation and distance. The use of fascia as an artificial ligament is no longer an experiment. It has proved satisfactory for a great many years under different conditions. I believe that in slipping patella, in which the patella is frequently caught over the front of the condyle, the method of attaching the patella to the tibia, as suggested in this paper, is natural and secure. It has been simple to carry out, it is secure, and it has the advantage of not disturbing or interfering with the capsule or natural ligaments of the joint. For extreme dislocations of the patella, such as those reported here and for slipping patella, it can be depended on to relieve the condition.

133 Newbury Street.

A CASE OF SERUM SICKNESS FOLLOWING THE ADMINISTRATION OF TOXIN-ANTITOXIN MIXTURE

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I am reporting this case because of the rarity of the condition. No instances have thus far been brought to the attention of the Connecticut State Department of Health, by which an active campaign is being waged to protect our children of the state against diphtheria. None have come to my attention by report of the New York authorities who, in this country, were among the first to initiate this means of prevention and through whose hands an enormous amount of material has passed. The patient was seen by his father, a physician, by Dr. Millard Knowlton, director of the Bureau of Preventable Diseases of Connecticut, and by me.

D. M., a boy, aged 5½ years, weighing 45 pounds (20 kg.), was brought to my office for immunization against diphtheria, Jan. 21, 1924. He was the elder of two children, his sister being 3 weeks old. The family history was essentially negative, and was good. The patient's history likewise was negative, after a rather stormy period of artificial feeding, the remains of which were seen in a very slight rachitic deformity of the chest. He had had none of the diseases of infancy, and none of the eruptive diseases. There had never been eczema, and no suggestion of asthma; nor had there been intestinal disturbances or evidence of urticaria. He was well developed, strong, active, placid and bright. He lived in a neighboring small town, an active, energetic outdoor life. He had never had horse serum, antitoxin or any of the various vaccines administered.

Since a Schick test would necessitate an extra trip from his home town, taking the best part of the afternoon from his father's busy practice, I advised immunization without the test. Consequently, he was given the first dose the same afternoon. When he reported, the following week, for his second treatment, I was told that there had been no reaction, either local or constitutional. The second injection was followed by a slight area of redness surrounding the point of puncture, but no swelling or discomfort more than slight itching. This had disappeared on his coming at the end of the week to receive his third and last treatment.

The last injection was given at 3 o'clock in the afternoon. The child was taken home, had a light supper, and was put to bed, not feeling well. At 8 o'clock his mother's attention was called by his noisy, rapid breathing, and soon he had a distinct shaking chill of the adult type. Although his temperature was not taken, his mother reports it as high. Until midnight the noisy, rapid respiration continued, and he had two more severe chills. There was no vomiting or nausea, nor were his bowels affected. He passed through a very restless, uncomfortable night; he complained that he was hot and tired; that his left arm (the last injected) and left leg "hurt," and that there was constant itching and burning of the whole body. At 7 o'clock in the morning the rash was first noticed, and at first the father felt that the child had measles; but on consideration of the onset and the lack of any other symptom of measles, he felt that it was serum sickness. I saw the child at 5 o'clock in the afternoon. He had gone through the day completely prostrated, refusing food but sucking some ice and taking water. There had been a very slight throaty cough; itching was marked between intervals of drowsiness. The temperature was 102, the pulse full and regular. Respirations were normal. He was still decidedly prostrated, apathetic and uncomfortable; he complained of itching and of a little pain in the left ankle.

As measles was prevalent in the town and in the neighborhood in which the patient lived, that disease was, of course, to be ruled out if possible. To do so one remembers that the boy was in perfect health late in the afternoon of the day preceding. He had no coryza, no cough, no languor and none of the prodromal symptoms of measles. The onset with three distinct chills and high fever would be unusual. The rash was confined to the trunk and extremities with the exception of the ears, which were swollen, very red, hot and a little tender. The cough was a very mild tracheal one. The eyes were not involved. There was absolutely no suggestion of coryza. The lungs were normal. The throat likewise was normal, nor could Koplik's spots be demonstrated. The bowels had been regular and had likewise been cleared. There was no history of indiscreet eating or of any change in the patient's regular diet. The temperature at this examination was 102. The left arm from the elbow to the shoulder was slightly swollen, a deep uniform red on both surfaces; at the point of inoculation, it was no different from the rest of the upper arm; it had the appearance of an erysipelas; it was not tender, but itched, as did the rest of his body. From the neck to the toes the patient had a perfectly typical maculopapular rash, the macules averaging about a half inch in length by the same in width and of the irregular concave convex shape of the measles rash. In intensity, the rash corresponded to that seen in a mildly severe case of measles. But it was easily seen that the rash was really raised, not "slightly raised," as is the common description of the measles rash; this fact was apparent to the touch and, when by constricting the blood flow of the thigh, for instance, until the rash faded below the area of pressure, the lesion was as distinctly visible as when colored by the blood—in other words, the lesion absolutely copied in raised white welts that unaffected by a temporary loss of blood to it. The rash, or welts, were raised at least a sixteenth of an inch above the surrounding normal skin.

Back of the ears were a few "flea bite" spots; but aside from the remarkable swelling, redness and heat of the ears, the neck and face escaped absolutely until the next day, when there was a slight blotching of the cheeks and chin.

On the second day, the temperature and rash gradually faded, and there were no symptoms more than a falling off in appetite and rather marked languor which, however, did not forbid the patient's unwillingness to stay in bed. On the third day he was up and outdoors engaged in his regular play. The rash had faded, and he was considered recovered.

A 3 L plus dose was used in this case, which contains much more toxin and a corresponding larger amount of bacterial protein than Dr. Park's new formula, which is designed to avoid any severe bacillus protein reaction.

226 Church Street.

AN ELECTRIC POLYGRAPH

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The polygraph illustrated in Figure 1 was designed for the purpose of securing records of the arterial and venous pulses of greater amplitude than is possible with the types of polygraph previously employed.

The principle and mode of use of the instrument may be readily understood. In order to record the pulse in the radial artery, a small button (*Btn.*, arterial recorder Fig. 1) on the end of a flat spring (*Spr.*) is applied over the artery (*Art.*); the tension of the spring may be varied by a device similar to that used in the Mackenzie[1] polygraph. The button (*Btn.'*) fixed to the center of the diaphragm (*Dia.'*) of the microphone (*Micr.*) rests on the spring (*Spr.*). In the circuit with the microphone is a battery (*Batt.*), a solenoid (*Sol.*) and a switch (*Sw.*). An armature (*Arm.*), swinging on a pivoted joint (*Jt.*), moves inside the solenoid. To the axle bearing the armature is attached a pointer (*Ptr.*) and a wire spring

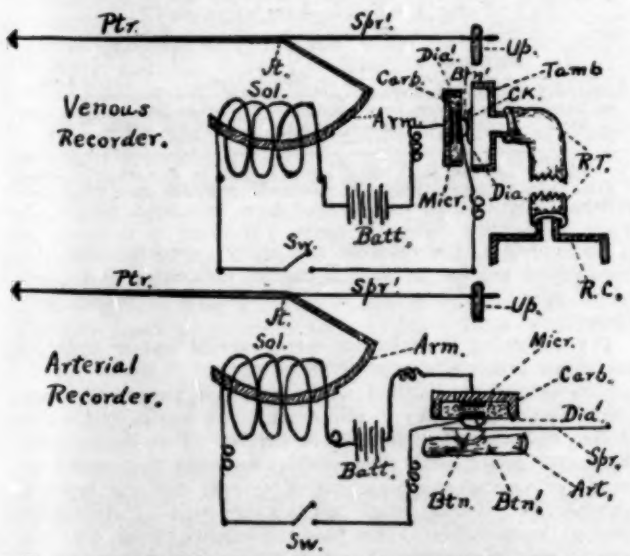


Fig. 1.—Diagrams of venous and arterial recorders of electric polygraph. The principle of the two recorders is identical except that, in the venous recorder, air-transmission is employed up to the microphone, and in the arterial recorder a spring, like that of the Mackenzie polygraph, is used beneath the microphone. *Arm.*, armature; *Art.*, artery; *Batt.*, battery; *Btn.*, button resting on artery; *Btn.'*, button of microphone; *Carb.*, carbon granules; *Ck.*, cork; *Dia.*, diaphragm of tambour; *Dia.'*, diaphragm of microphone; *Jt.*, pivoted joint; *Micr.*, microphone; *Ptr.*, pointer; *R. C.*, receiving cup for vein; *R. T.*, rubber tubing connecting receiving cup to tambour; *Sol.*, solenoid; *Spr.*, spring pressing button on artery; *Spr.'*, spring of armature; *Sw.*, switch; *Tamb.*, tambour; *Up.*, upright supporting armature spring.

(*Spr.'*). The other extremity of the spring passes through an opening in an upright (*Up.*); by varying the position of the upright, one may suitably adjust the tension of the spring. Pulsations in the radial artery cause, by transmission through the button (*Btn.*) and spring (*Spr.*), up-and-down movements of the button (*Btn.'*) and diaphragm (*Dia.'*) of the microphone. These movements produce changes in the resistance of the carbon granules inside the microphone, which result in corresponding variations in the magnetic field of the solenoid. The excursions of the armature, thereby induced, are recorded on a smoked surface by means of the pointer (*Ptr.*). The lower tracing in Figure 2 was obtained in this way; it will be noted that the records show the characteristic features of the radial pulse.

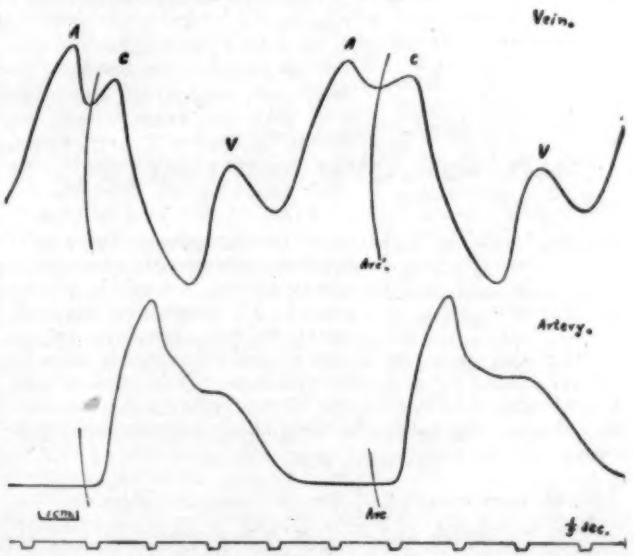


Fig. 2.—Pulse records of internal jugular vein and of radial artery obtained with the electric polygraph: *Arc*, *Arc'*, corresponding arcs; *A*, A wave; *C*, C wave of Mackenzie; *V*, V wave; time in one-fifth second.

In recording the pulse of the internal jugular vein, a slight modification of the method just described was adopted. Since the pressure changes in the vein are less powerful than those in the artery, it was thought wise to obtain them by an open receiving cup (*R. C.*, venous recorder, Fig. 1) similar to that used in the Mackenzie polygraph. This cup is applied over the jugular bulb in the usual manner. The changes in pressure are transmitted by a rubber tube 50 cm. in length (*R. T.*) to a tambour (*Tamb.*). The movements of the diaphragm (*Dia.*) of the tambour are transmitted by a cork (*Ck.*) to the button (*Btn.'*) of the microphone (*Micr.*). The arrangement of the microphone, battery, switch, solenoid and swinging armature are the same in this case as in the arterial recorder.

The rubber tube (*R. T.*) in the venous recorder will obviously introduce a very slight delay in transmission. Calculation shows, however, that such delay is so extremely small (about $\frac{1}{657}$ second) that it may be disregarded. Experimental proof that the levers move synchronously was furnished by the following test: A tambour covered with a rubber diaphragm, with a button at its center, was substituted in the venous recorder for the receiving cup (*R. C.*). The button of this tambour was then pressed smartly against the button (*Btn.'*) of the arterial recorder; in the meantime, the two pointers were permitted to write on a rapidly revolving drum. The excursions of the pointers appeared to be exactly synchronous. It is clear, then, as pointed out above, that any difference in time between the two records is negligible.

By means of the venous recorder, the tracing shown in the upper part of Figure 2 was obtained from the right jugular bulb. The C wave of Mackenzie shown on the phlebogram was identified by the use of corresponding arcs (*Arc* and *Arc'*). Waves A and V were then labeled in accordance with the position of the C wave.

The levers of the electric polygraph were found to be almost "dead-beat," when applied to the drum with the degree of pressure that is ordinarily used. In this respect they compare most favorably with those of the various ink polygraphs in

1. Mackenzie, James: Diseases of the Heart, Ed. 3. London, Henry Frowde, 1914.

general use, all of which show a greater tendency to after-vibrations.

For purposes of comparison, the records shown in Figure 3 were obtained with the Mackenzie polygraph from the artery and vein of the same subject used to obtain Figure 2. It will be readily observed that the curves yielded by the two methods are similar in fundamental details; but, as already stated, the tracings furnished by the electric polygraph are of greater amplitude, and thus permit a more satisfactory study of the various waves and their time relations.

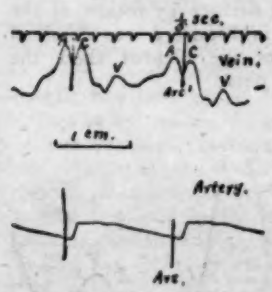


Fig. 3.—Pulse records of internal jugular vein and of radial artery obtained with the Mackenzie polygraph: *Arc*, *Arc'*, corresponding arcs; *A*, A wave; *C*, C wave of Mackenzie; *V*, V wave; time in one-fifth second.

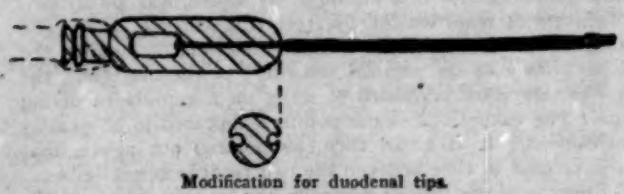
On close inspection of the venous tracings obtained with the Mackenzie apparatus, it will be seen that two extra waves, not shown in Figure 2, are present, one preceding the V wave, the other following it. The presence of waves of this kind in records by various types of polygraphs has been commented on by Wiggers[2] (Figs. 3 and 5 of his paper). He points out that such waves do not appear in optical records of the venous pulse, and is inclined to regard them as artefacts caused by the lever vibrations. It is obvious that the phlebogram yielded by the electric polygraph resembles more closely the optical records than the ink polygraph records.

A MODIFICATION FOR DUODENAL TIPS*

EDWARD HOLLANDER, M.D., NEW YORK

In most normal persons, the duodenum can be intubated within one-half hour by the use of a properly weighted duodenal tip. The patient should be in the right Sims position, half a glass of water should be swallowed or injected through the tube, and the last 10 inches to the end mark of the tube should be swallowed slowly over a period of one-half hour. By fluoroscopic observation, the tip of the tube can be seen to advance along the antrum of the stomach and to pass directly through the pylorus into the duodenum. However, when pylorospasm, adhesions or other organic conditions about the pylorus are present, the tip enters the duodenum with difficulty. Here the tip impinges on a constricted or insufficiently relaxed pylorus, and as the tube is swallowed to the end mark, either the tip moves backward toward the cardia or else the tube coils on itself and at times even forms a knot. In cases presenting this difficulty, Lyon suggests the use of a narrow copper sinker attached by thin cord to the duodenal tip. When the small sinker enters the pylorus, it acts as a guide for the larger fenestrated tip to follow. An objection to such a contrivance is that the patient must swallow two solid objects in succession.

Recently, I[1] stated the advantages of a properly weighted cylindric-shaped tip with a narrow diameter approximating that of the No. 8 French rubber tubing which is attached.



Modification for duodenal tips.

Such a tip is swallowed and withdrawn more easily than a broader one, and also passes more readily through moderate degrees of spasm at the pylorus. This principle has been extended in a small modification that can be applied to any tip with an elongated shape. A No. 18 Faber rubber band is set into a circular groove running longitudinally along the tip, and is knotted at its distal end, as shown in the accompanying illustration. The weight of the tip carries the rubber band toward the pylorus, where, because of its flexibility, the band can easily enter into a constricted pyloric passage. When the band is engaged in the pylorus, it prevents the tip from being diverted, as the latter advances by peristaltic force and gravity. The rubber band set in the longitudinal groove maintains a position 2½ inches in advance of the tip, owing to its elasticity and to the forward pressure of peristaltic waves. Unlike cord or tape, it does not become adherent to the rubber tube. In many cases in which the unmodified tip failed to enter the duodenum, this device succeeded. The tip was made for me by the Kny Scheerer Company.

71 East Ninety-Sixth Street.

2. Wiggers, C. J.: The Supraclavicular Venous Pulse in Man, J. A. M. A. **64**: 1485 (May 1) 1915.

* From the Medical Department, Mount Sinai Hospital.

1. Hollander, Edward: A New Tip for Gastroduodenal Tubes, J. A. M. A. **80**: 1217 (April 28) 1923.

THE ADMINISTRATION OF INSULIN*

WILLIAM P. MURPHY, M.D., BOSTON

One of our most intelligent diabetic patients was discharged from the hospital with instructions to take 7 units of Insulin-Lilly each day before breakfast. On leaving the hospital he was given a 5 c.c. ampule of U-20 insulin, or 100 units, which was estimated to be a sufficient supply for two weeks' time. He returned, however, ten days later with an empty ampule. He stated that he had followed his instructions as carefully as possible, but that he was unable to account for almost a third of his supply. As this seemed to be an unusually large loss of the drug, he was asked to keep an accurate record of dosage on another ampule, which again resulted in a similar loss. Calculating the annual consumption of insulin by this patient on the basis of 7 units a day at 2 cents a unit, I found that instead of getting his required insulin for $51 a year, he would actually pay $66, or would throw away $15 of his supply. These figures are given in Table 1.

TABLE 1.—*Yearly Loss of Insulin**

100 Units			Yearly Cost		Yearly Loss	
Calculated to Last 14 days	Actually Lasted 10 days	Loss Every 14 Days 30 units	Calculated	Actual	Amount	Per Cent.
			$51	$66	$15	34

* Figured on the basis of 2 cents a unit in a patient receiving 7 units of U-20 insulin daily and measured by means of a 2 c.c. glass syringe.

Since insulin is a valuable and fairly expensive drug, this observation led me to make a careful estimation of the loss which might result in the routine handling of insulin with syringes.

The following experiments were carried out in order to study this problem:

Five grams of distilled water at room temperature was placed in an empty, dry insulin ampule and was capped with a rubber cover, as though it were insulin. Five-tenths cubic centimeter doses were then withdrawn from the ampule by means of various combinations of several different types of syringes and needles until the ampule was as completely emptied as possible. The fluid withdrawn from the first ampule was injected dose by dose into a second dry ampule, which was in turn weighed in order to find how much of the original fluid could be recovered. The syringe and needle were dried between each measurement so as to duplicate the manipulations carried out in the routine administration of insulin. Table 2 shows the results obtained in these experiments.

After each complete experiment I found invariably that less water had been injected into the second ampule than had been weighed in the first ampule at the start. The water lost in transfer differed with each combination of syringe and needle,

* From the Medical Clinic of the Peter Bent Brigham Hospital.

* This paper is No. 14 of a series of studies in metabolism from the Harvard Medical School and allied hospitals. The expenses of this investigation have been defrayed (in part) by a grant from the Proctor Fund of the Harvard Medical School for the Study of Chronic Diseases.

and varied under the condition of my experiments from 25 to 9 per cent.

The amount of water lost at each "dose" was obtained by dividing the "water lost" by the number of "doses." This varied between 0.16 and 0.06 gm. This variability was not caused by caliber or length of the needle, but appeared to depend largely on the size of the dead space at the tip of the

TABLE 2.—*Insulin Lost in Its Routine Handling with Various Types of Syringes and Needles**

Syringe	Needle	Weight of Water in Ampule 1 at Start of Experiment, Gm.	Water Measured by Syringe, C.c.	Weight of Water in Ampule 2 at End of Experiment, Gm.	Number of Doses	Water Lost: Amount, Gm.	Water Lost: By Weight per Cent.	Water Lost: Per Dose, Gm.
No. 1, 2 c.c.	No. 3, ⅝ inch	5.0	4.2	3.73	8	1.27	25.4	0.16
No. 2, 2 c.c. glass	No. 3, ⅝ inch	5.0	3.9	3.73	8	1.27	25.4	0.16
No. 3, 1 c.c.	No. 3, ½ inch Schick	5.0	4.2	3.9	8	1.1	22.0	0.14
No. 3, 1 c.c. tuberculin	No. 3, ½ inch Schick	5.0	4.25	4.15	8	0.85	17.0	0.11
No. 3, 1 c.c. tuberculin	No. 3, ⅝ inch	5.0	4.4	4.3	9	0.70	14.0	0.08
No. 3, 1 c.c. tuberculin	No. 5, ⅝ inch	5.0	4.48	4.33	9	0.67	13.4	0.07
No. 3, 1 c.c. tuberculin	No. 6, ½ inch	5.0	4.48	4.33	9	0.67	13.4	0.07
No. 3, 1 c.c. tuberculin	No. 4, ⅝ inch	5.0	4.52	4.375	9	0.625	12.5	0.07
No. 4, 1 c.c. tuberculin	No. 4, ⅝ inch	5.0	4.63	4.45	9	0.55	9.1	0.06

* The type of syringe and needle used in each case is shown in the two left hand columns. Those listed under the same number were made by the same company.

syringe and on the accuracy with which the needle fitted. The loss was greatest in the cheaper and less accurately ground syringes, and was least in the "tuberculin" type with needles which fitted well down on the tip.

If these results are expressed in terms of insulin, it appears that approximately 3 units of U-20 or 1.5 units of U-10 insulin may be thrown away with each dose measured in certain types of syringes, and that there is probably an inevitable loss of 1 unit of U-20, or 0.5 unit of U-10 per dose, with any syringe.

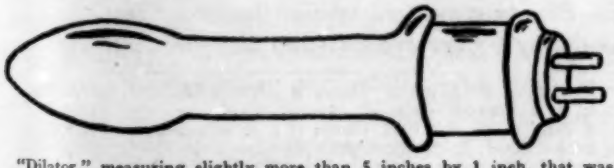
These observations justify certain practical conclusions in regard to the routine administration of insulin. Patients using insulin will save money and drug by equipping themselves with the most accurately ground syringe available and a perfectly fitting needle of moderate caliber and length. It is false economy to procure a cheap, ill made syringe for the purpose.

Since each dose injected is accompanied by an inevitable loss of drug, it is least wasteful to give the required amount in as few doses as possible and in dilute form wherever practicable.

FOREIGN BODY IN SIGMOID

E. W. SIMMONS, M.D., PORTLAND, ORE.

A. K., a man, aged 43, was brought to my office with a rectal hemorrhage. He had inserted an "electric" dilator into the rectum for the treatment of constipation, and had



"Dilator," measuring slightly more than 5 inches by 1 inch, that was removed from rectum.

allowed it to slip by the sphincter. In trying to extract it, he had forced it up the rectum to the flexure of the sigmoid. When I saw him, the lower end of the appliance was 7 or 8 inches above the anus. The patient had tried to remove it with a pair of pliers, and had badly torn the rectal mucosa and had lost a large amount of blood.

A rectal speculum was introduced under general anesthesia, and I attempted to remove the object by means of a sponge forceps, without success, as the point of the dilator was rammed into a curve of the sigmoid, and a fold of mucosa was caught around the electric terminals of the appliance.

Dr. J. H. Fitzgibbon introduced a long pair of bronchoscopy forceps through a proctoscope, and with considerable difficulty removed the obstruction. The mucosa had previously been torn off in pieces varying up to the size of a twenty-five cent piece. The hemorrhage was profuse, and we estimated that 1 or 2 liters of blood had been lost.

With morphin, thromboplastin, and hospital rest the pain and hemorrhage ceased and a rapid recovery ensued.

The patient decided to treat his constipation by other means, and presented us with the appliance as a curiosity.

371½ Russell Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

DEODORIZED KEROSENE-WELTY.—Kerosene which has been treated so as to remove the odorous constituents of commercial kerosene.

Actions and Uses.—Because of its solvent action on fats, deodorized kerosene-Welty is proposed for use as a pediculocide and as a means of removing dandruff and the detritus of wounds. Its use as a vehicle in sprays, liniments, etc., is proposed because of its solvent action toward oils, fats and iodine. Deodorized kerosene-Welty has mildly rubefacient properties.

Manufactured by Welty Co., Chicago. No U. S. patent or trademark.

Deodorized kerosene-Welty is a colorless, nonfluorescent, almost odorless mixture of hydrocarbons. It is a highly mobile liquid having a specific gravity of approximately 0.796 at 20 C. and distils for the most part between 180 and 265 C. Deodorized kerosene-Welty is insoluble in water, soluble in alcohol, ether, chloroform and fixed oils.

Deodorized kerosene-Welty is a solvent for camphor, iodine, menthol, thymol, salol, eucalyptol, methyl salicylate, waxes, resins, fats and phosphorus.

DESICCATED PITUITARY SUBSTANCE (ANTERIOR LOBE)-ARMOUR (See New and Nonofficial Remedies, 1923, page 217).

The following dosage form has been accepted:

Anterior Pituitary Tablets-Armour, 2 grains.

DESICCATED PITUITARY BODY-ARMOUR (See New and Nonofficial Remedies, 1923, page 217).

The following dosage form has been accepted:

Pituitary Tablets-Armour, 2 grains.

DESICCATED PARATHYROID GLAND-ARMOUR (See New and Nonofficial Remedies, 1923, page 215).

The following dosage form has been accepted:

Parathyroid Tablets-Armour, ⅒ grain.

PITUITRIN "S" (SURGICAL).—A slightly acid aqueous extract of the posterior lobe of the pituitary body of cattle, approximately six times the strength of Solution of Hypophysis U. S. P., containing 0.5 per cent. chlorbutanol as preservative. It is (1) tested for oxytocic action upon the isolated uterus of the virgin guinea-pig by the method of the U. S. Hygienic Laboratory (Bulletin 100) and (2) standardized quantitatively according to Hamilton and Rowe (*J. Lab. & Clin. Med.* **2**:120 (Nov.) 1916).

Actions and Uses.—See general article, Pituitary Gland, New and Nonofficial Remedies, 1923, p. 215.

Dosage.—The usual initial dose is 0.5 Cc. (8 minims). The dose may be repeated every three or four hours and increased to 1 Cc. (15 minims) if required.

Manufactured by Parke, Davis and Co., Detroit. No U. S. patent. U. S. trademark 76, 722.

Ampules Pituitrin "S" (Surgical), 1 Cc.

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SATURDAY, APRIL 19, 1924

SCARLET FEVER—THE OUTLOOK

Scientific progress in the study of scarlet fever has been rapid during the last few months. The outlook for a more effective control of this serious malady is more promising than ever before. The practically constant presence of hemolytic streptococci in the throats of persons suffering from scarlet fever has long been recognized. Streptococci are the preponderant causative agents also of such septic complications of the disease as otitis media, adenitis, interstitial nephritis, arthritis and septicemia. For a long time the possible primary causative rôle of the streptococci in scarlet fever was questioned because it was deemed unreasonable to suppose that a specific disease can be caused by an organism giving rise to such varied manifestations as does *Streptococcus hemolyticus*, and furthermore because the presence of this organism had not been found in some rapidly fatal malignant instances of scarlet fever. More recent reexaminations by Tunnicliff and others of the streptococci associated with scarlet fever have shown, however, as Dochez [1] again points out, that the type of hemolytic streptococcus found in the throats of scarlet fever patients may be a specific one readily distinguishable by agglutination and other immunologic tests from the types of *Streptococcus hemolyticus* causing other kinds of angina and septic conditions in general. Furthermore, this apparently specific streptococcus has been isolated from the local wound in wound scarlet, from the infected burn in burn scarlet, from the lochial discharge in puerperal scarlet, and from both patients and contaminated milk in a milk-borne epidemic of scarlet fever. Careful study of the throat secretions of patients with scarlet fever indicates the organism to be present at some time during the disease in all cases. It would seem, therefore, that some of the main objections to the etiologic significance of *Streptococcus hemolyticus* in scarlet fever have been answered; but, of course, it requires evidence of a still more convincing nature to prove definitely that scarlet fever may be caused by streptococci.

The present year has already furnished outstanding contributions in the renewed investigation of scarlet fever. Dick and Dick [2] of the John McCormick Institute for Infectious Diseases in Chicago, after working in this field for many years, have isolated strains of hemolytic streptococci which seem to have fulfilled all the requirements of Koch's dictum, even to the extent of developing scarlet fever in human volunteers. They [3] have also separated a toxic filtrate from cultures of hemolytic streptococci from scarlet fever that gives an intracutaneous reaction in persons presumably susceptible to scarlet fever, that is neutralized by serum from scarlet fever convalescents, and that gives no skin reactions with the latter, or in persons who have had scarlet fever some time before. This observation has been confirmed by Zingher [4] and by Branch and Edwards,[5] working independently. And in this issue they [6] report the production of an antitoxic serum in the horse by injections of the toxic filtrate of cultures of scarlet fever streptococci. This demonstration is a logical advance of the preceding work, and the results of further study of this antitoxic serum will be awaited with much interest.

Dochez [1] has succeeded at the Presbyterian Hospital, New York, in developing, in a horse, an immune serum capable of neutralizing locally the rash in the skin of cases of scarlet fever; in fact, this horse serum seems to be more potent than convalescent scarlatinal serum; but whether it will prove of therapeutic usefulness still remains to be determined. The results recently reported from its use by Blake, Trask and Lynch [7] may be regarded as promising.

These newer findings thus further throw the balance of evidence in favor of *Streptococcus hemolyticus* as the causative agent of scarlet fever. The disease may not be unlike diphtheria in that the conspicuous location of the infection is in the throat, where the causative agent produces a toxin that gives rise to the general symptoms and the rash. The immunity produced is presumably antitoxic in character, and the blanching brought about by intracutaneous injection of serum represents the neutralization of the toxin in situ. Consequently, the Dick test is likely to find an application comparable to that of the Schick test in diphtheria. At the New York City Department of Health, Zingher [4] has already completed studies that show that the susceptibility by age groups from birth to adult life cor-

1. Dochez, A. R.: Studies Concerning the Significance of Streptococcus Hemolyticus in Scarlet Fever, Proc. Soc. Exper. Biol. & Med. **21**: 184 (Jan.) 1924.

2. Dick, G. F., and Dick, Gladys H.: The Etiology of Scarlet Fever, J. A. M. A. **82**: 301 (Jan. 26) 1924.

3. Dick, G. F., and Dick, Gladys H.: A Skin Test for Susceptibility to Scarlet Fever, J. A. M. A. **82**: 265 (Jan. 26) 1924. Immune Reactions of Scarlet Fever, editorial, ibid. **82**: 304 (Jan. 26) 1924.

4. Zingher, Abraham: Results Obtained with the Dick Test in Normal Individuals and in Acute and Convalescent Cases of Scarlet Fever, Proc. Soc. Exper. Biol. & Med. **21**: 293 (March) 1924.

5. Branch, C. F., and Edwards, F. G.: The Relation of the Dick Test to Scarlet Fever, this issue, p. 1260.

6. Dick, G. F., and Dick, Gladys H.: A Scarlet Fever Antitoxin, this issue, p. 1246.

7. Blake, F. G.; Trask, J. D., Jr., and Lynch, T. F.: Treatment of Scarlet Fever with Scarlatinal Antistreptococcic Serum, J. A. M. A. **82**: 712 (March) 1924.

responds closely to the percentage susceptibility to diphtheria. Comparative studies have been made with the reaction on mothers and their offspring. The results indicate that the reactions are similar in the mother and offspring during the first six months of life. The antitoxin is transmitted through the placenta, and persists in most infants for a period of about six to nine months. Zingher states that the Dick test has been found highly valuable for diagnostic purposes, as a positive reaction during the first day or two of a suspicious scarlet-like rash, and again two weeks or more after the fading of the rash, will indicate that the patient did not have scarlet fever. The test is of great value and will find, like the Schick test, an increasing field of application in the selection of susceptible individuals for passive and active immunization; for passive immunization with convalescent serum from human beings or antitoxic serum from animals; and for active immunization with increasing doses of the toxin itself. The negative retest would indicate the development of antitoxic immunity. Zingher believes also that the diagnosis of varying forms of sinus disease, such as ethmoid, sphenoid, antrum and ear infections, will be facilitated as regards a doubtful scarlet fever etiology, if the strain of hemolytic streptococcus causing the local condition is obtained, a toxin produced, and it is subsequently determined whether the toxin can be neutralized with convalescent scarlet fever serum. The outlook for accurate diagnosis, curative treatment and preventive inoculation in the case of scarlet fever has become notably enlarged.

THE INTESTINAL MUCOSA AS A BARRIER AGAINST BACTERIAL INVASION

We have been taught by a variety of considerations to look on the skin and the healthy mucous membranes as highly effective devices to prevent the invasion of the body by micro-organisms. The epidermis not only is impervious to substances in particulate forms, like bacteria, but also resists the passage of compounds in solution. Absorption through the sound skin is difficult, if not impossible, in most cases; otherwise, intoxication through surface contacts with noxious chemical substances would surely be far more frequent than it is. The menace comes from the abrasions of the cuticle. We puncture the latter with a hypodermic needle when it is desired to force an entrance to areas for absorption. The mechanical protection afforded by the mucous membranes, particularly when their surfaces are well covered with entangling secretions, is as a rule sufficient to prevent penetration of any bacteria that by chance have found lodgment on them. It is well known that the defense of intact mucous membranes is by no means impervious. Local physiologic or functional injury, such as congestion or catarrhal inflammation, have often been held responsible for the penetration of micro-organisms without the existence of demonstrable morphologic lesions. It is said that tubercle bacilli, for example, may pass into the lymphatics through the intestinal mucosa without there being any traceable injuries on this membrane.

Admitting the imperfections of the safeguards presented by the mucous surfaces of the organism, one must nevertheless marvel at the degree of perfection with which invasion of the blood stream and tissues is prevented or averted. The absence of a continuous bacteremia, the essential sterility of the organs and the tissues in spite of the hordes of microbial invaders that continually enter and thrive in the recesses of the long gastro-enteric tract, represent one of the marvels of biologic immunity and resistance. How much of the protection is actually due to the covering mucosal epithelium of the intestinal tract? There is an implication in current opinion that the damage of the epithelial structure is likely to be followed by untoward consequences. It will come as a surprise, therefore, to learn that this barrier may be removed completely and yet the expected overwhelming invasion by hordes of bacteria that swarm the intestinal tract does not follow. This, at least, is suggested by the investigations of Warren and Whipple [1] at the University of Rochester, N. Y. These pathologists [2] showed earlier that a suitable dose of the roentgen ray has a specific effect on the epithelium lining the crypts and covering the villi of the small intestine. It may actually destroy this membrane, leaving empty crypts and naked villi exposed to swarms of bacteria in the bowel. Strangely enough, however, one does not subsequently observe an overwhelming invasion of the tissues, lymph and blood by the alimentary micro-organisms found in the masses of exudate.

Such experimental findings awaken the conclusion that, perhaps, the intestinal epithelium is not the all important barrier that protects the tissues from invasion. Evidently, as Warren and Whipple assume, the other tissues or tissue juices have a protective mechanism, perhaps a form of secondary defense which is of much importance and is not to be neglected in estimating the resistance of the intestine to bacterial invasion. These investigators point to the striking contrast in the intestinal mucosa between elimination or extravasation of fluid and the absorption following roentgen-ray exposure. The clinical result of the profuse excretion throughout the enteric tract is vomiting and diarrhea. The escape of fluid through the mucosa, the outwandering of white cells, and diapedesis, or hemorrhage of red cells may be noted. There is obvious lack of absorption. The preponderance of flow outward through the mucosa may, indeed, in such conditions be one of the protective factors standing between the bacteria of the intestine and the tissues.

1. Warren, S. L., and Whipple, G. H.: Roentgen-Ray Intoxication, I, Bacterial Invasion of the Blood Stream as Influenced by X-Ray Destruction of the Mucosal Epithelium of the Small Intestine, J. Exper. Med. **38**: 713 (Dec.) 1923.
2. Warren, S. L., and Whipple, G. H.: J. Exper. Med. **35**: 187 (Feb.) 1922.

It should not be assumed that severe consequences do not follow these destructive exposures to the roentgen ray. Death usually ensues, with clinical evidence of intoxication presumably due to the production of poisonous derivatives from disintegration of the epithelial cells. Such consequences may also attend conditions in which there is no gross intestinal abnormality. Our interest centers primarily in the defense against the threatening bacteria. Incidentally, the experiments of Warren and Whipple reemphasize the subtle penetrating dangers of exposure to the roentgen ray. There are scattered observations that the human intestinal tract is likewise sensitive to radiation. This fact, we are reminded, must be given careful consideration in conditions in which abdominal and pelvic radiation is being used, because such injury done to intestinal epithelium is always serious and in some cases irreparable.[3]

BEHAVIOR OF CARBON TETRACHLORID IN THE BODY

Experts in the field of preventive medicine estimate the numbers of persons infested with hookworm in the millions, a truly startling figure. One writer,[4] for example, in discussing the almost incalculable economic loss occasioned by the human involvement with this animal parasite, refers to the infestation of two million or more persons in the southeastern United States and of from 60 to 80 per cent. of the three hundred million persons in India. Even when large deductions are allowed for possible errors or uncertainty of the data, such statistics emphasize in a forceful manner that the problem of eradication of hookworm disease from those already affected must involve large expenditures for remedial agents and may entail great possibilities of human injury or death to large numbers if the methods adopted harbor potential dangers or accidental menaces.

The early classic remedy was thymol, a drug with which hundreds of thousands of patients have been successfully treated in this country alone, particularly those who were treated by the American Hookworm Commission prior to the World War. Thymol is a toxic substance. Its usefulness against the hookworm lies in the fact that under ordinary circumstances it is not absorbed from the alimentary tract of man. It affects the parasite without endangering the host. Owing to the solubility of thymol in them, it has long been recognized that no fats, oils or alcohols should be given at the same time as the drug, because of the possibility of thereby facilitating its absorption. Thymol is not highly efficient except in repeated doses, taken some days apart; and this is regarded as a severe handicap in its use. In recent years, oil of chenopodium has attained considerable favor as an anthelmintic against ascarids and hookworm; it is also used against intestinal amebas. Chandler regards it as more effective than thymol and, if anything, less dangerous to the patient. The relative usefulness of oil of chenopodium, which is comparatively inexpensive and is obtainable in inexhaustible supply, has been considerably debated, particular emphasis being placed on its constipating effect and the inevitable need of a concomitant cathartic. Also betanaphthol and oil of eucalyptus have been employed.

The most recent claimant for recognition is carbon tetrachlorid, or tetrachlormethane, which has experienced a rapidly increasing employment as a vermifuge.[5] It removes also some intestinal parasites other than the hookworm, such as *Oxyuris vermicularis, Ascaris lumbricoides* and *Tricocephalus dispar*. It is reported that usually about 95 per cent. of the hookworms are removed by the first dose of carbon tetrachlorid, and that occasionally all are removed. The moderate cost of this chemical has enhanced its popularity. The substance appears in commerce for a considerable variety of purposes. For this reason the American Medical Association Chemical Laboratory studied the quality of the market supply and elaborated standards that might serve to identify products suitable for medicinal uses. As a result of our chemists' work, the Council on Pharmacy and Chemistry adopted standards for Carbon Tetrachloride Medicinal and listed brands that were found to come up to those standards. In the description adopted for New and Nonofficial Remedies, this vermifuge is said to appear to be relatively safe, but serious symptoms and even death have been reported, especially in patients addicted to the use of alcohol.

The International Health Board has regarded the outlook as one of sufficient importance to promote an elaborate investigation of the pharmacology and toxicology of carbon tetrachlorid at the pharmacologic laboratory of the Johns Hopkins University.[6] A striking outcome has been the repeated demonstration that, in dogs, the drug is almost harmless when given by mouth in single doses even up to stomach capacity. This favorable outcome must be attributed to the failure of carbon tetrachlorid to be absorbed from the intestine; for if it is introduced to the tissues directly through the circulation, symptoms of severe intoxication are readily produced. This happens likewise after inhalation of the drug in the form of vapor. If it reaches the portal circulation, there is great depression, vomiting, diarrhea, jaundice, bilirubinemia and bilirubinuria. The liver functions are profoundly depressed, and chronic poisoning can readily be induced. Such conditions, though rarely found after ordinary

3. Warren, S. L., and Whipple, G. H.: Roentgen-Ray Intoxication, IV, Intestinal Lesions and Acute Intoxication Produced by Radiation in a Variety of Animals, J. Exper. Med. **38**: 741 (Dec.) 1923.

4. Chandler, A. C.: Animal Parasites and Human Disease, New York, John Wiley & Sons, 1922.

5. Carbon Tetrachloride Medicinal, J. A. M. A. **80**: 1143 (April 21) 1923.

6. Lamson, P. D.; Gardner, G. H.; Gustavson, R. K.; Marie, E. D.; McLean, A. J., and Wells, W. S.: The Pharmacology and Toxicology of Carbon Tetrachloride, J. Pharmacol. & Exper. Therap. **22**: 216 (Nov.) 1923.

oral administration of carbon tetrachlorid, can be induced if solvents for the drug are administered before or along with it. For practical purposes, alcohol and fats alone come into consideration here. Through the solvent action of these readily absorbed substances, the drug can apparently be passed through the alimentary barrier that is ordinarily impervious to it. Demonstrations on animals confirm the occasionally reported clinical observations that patients taking alcohol shortly before or after administration of carbon tetrachlorid often show severe signs of intoxication. In some cases, death has been attributed to such circumstances. The findings of the Johns Hopkins pharmacologists, particularly with respect to the facilitation of absorption of the drugs when fats are present in the digestive tract, are of great moment in connection with the modes of administration that are to be recommended, as well as with the diet that may be employed. It appears more than doubtful whether milk should be used as a vehicle for carbon tetrachlorid, as is sometimes recommended. Fat should always be excluded.

The large importance of variability in absorption is further emphasized by the comparative toxicity of the anthelmintic for dogs and rabbits, the latter being extremely susceptible, in contrast to the resistant canine alimentary tract. The difference is presumably due to differences in the degree of absorption from the intestinal tract, as the two species of animals are equally susceptible to the drug administered by inhalation. Incidentally, the chance of exposure to the vapors is by no means excluded under present conditions of its industrial and household use. The assumption that the toxicologic dangers of carbon tetrachlorid are due to impurities in the currently used products has been disproved. Even extremely pure samples are highly toxic, provided the drug finds a pathway for distribution in the organism. The usefulness of carbon tetrachlorid can only be enhanced by the more precise knowledge of its possible behavior in the body.

Current Comment

INSULIN HYPOGLYCEMIA AND ANHYDREMIA

The deleterious effects of anhydremia on the organism have received frequent mention in THE JOURNAL.[1] This condition can occur far more commonly than was formerly supposed. As a rule, the concentration of red blood cells and hemoglobin is markedly increased. In many cases there is no actual desiccation of the blood, but a loss of plasma, presumably by passage through the vessel walls. This is true in traumatic shock, in influenza, in intestinal obstruction, and following severe burns of the surface of the body. In all these cases, as in the striking anhydremia of infants, there is a decrease in blood volume, and changes in the circulation occur. Along with these, a variety of symptoms suggestive of shock are likely to occur. One is reminded of them by the descriptions of some of the untoward effects of overdosage with insulin. It is of interest to note, therefore, that Drabkin, Page and Edwards [2] have regularly found a concentration of the blood in the hypoglycemia produced by injections of the pancreatic hormone. The dehydration of the blood during the hypoglycemic state is probably directly attributable to the low content of sugar in the circulating medium; at any rate, there are experimental evidences that the other extreme—increase in blood sugar—calls forth a mobilization of fluid into the blood. However objectionable an excess of the carbohydrate may be in the body, we cannot well dispense with a normal modicum of circulating glucose. Fortunate the organism in which this quota is properly maintained and regulated so that neither too much nor too little shall be in evidence.

THE CONFESSIONS OF A GERMAN WAR SURGEON

Those who followed the surgical exigencies of the World War at close range, and had opportunity or occasion to study the practices employed, will doubtless find much of interest in the story of the treatment of wounds among the enemy as told by a consulting surgeon of the German Army, General Franz,[3] to the Association of Military Surgeons of this country. Franz rightly emphasizes the fact, elicited by extensive experience in many campaigns, that the real teacher of war surgical practice is war itself. The World War has again demonstrated to us, he adds, that one cannot expect from a few known wound remedies the salvation of all wounds. Those wounded will do best who are fortunate enough to fall into the hands of a medical officer who, in addition to surgical skill, possesses the ability to select the remedy best suited for the individual wound. Speaking from observations on the side of the central empires, Franz is inclined to emphasize the underrated importance of splints in the care of wounds. He reminds us that the management of wounds without rational splinting is only half care; and this applies not only to fractures but also to large wounds of the soft parts of the extremities and neck. Also fractures of the skull must be splinted. With the possibility of gas edema always in sight under war conditions, plaster-of-Paris bandages, so popular in lay practice, were abandoned in the German army medical service. The surgeons early learned the pressing necessity of active intervention in all suspicious wounds. Franz assures us that only a few were treated conservatively. Experience taught that the average wound canal produced by shrapnel or grenade splinters was infected in the middle, while in wound channels produced by infantry projectiles the middle was often free from infection. We are told that there was scarcely any difference between the effects of the projectiles of the various armies, except that the conditions connected with the French

1. Diarrhea and Anhydremia in Infancy, editorial, J. A. M. A. **76**: 794 (March 19) 1921; Anhydremia and Fever, ibid. **79**: 218 (July 15) 1922. Marriott, W. M.: Anhydremia, Physiol. Rev. **3**: 275 (April) 1923.

2. Drabkin, D. L.; Page, I. H., and Edwards, D. J.: Blood Concentration in Insulin Hypoglycemia, Proc. Soc. Exper. Biol. & Med. **21**: 309 (March) 1924.

3. Franz: The Treatment of Wounds in the German Army During the World War, Mil. Surgeon **54**: 272 (March) 1924.

copper projectiles were more favorable. By active surgical intervention, infection of many wounds was prevented; nevertheless, the number of infections was admittedly very great. Chemical antisepsis was never entirely abandoned. Surgical solution of chlorinated soda became known to the German surgeons in time as a primary disinfectant highly lauded by our experts. It was not employed, however, because of alleged disadvantages, notably those of continuous application. Chemical "depth antisepsis" with organic compounds found some application. Medicine knows no boundaries of country or continent. It pursues a world-wide aim of alleviating human suffering. The comparison of experiences, now that the smoke of battle has cleared away, marks one of the signs that the spirit of medical brotherhood is returning to a world turned topsy turvy.

THE LOSS OF VITAMINS FROM THE BODY BY EXCRETION

With the indispensability of certain vitamins for normal nutrition clearly established, it becomes desirable to learn more about their precise rôle and their fate in the organism. That the vitamins with which the studies of recent years have made us most familiar are not conserved in very large amounts, at least in readily available forms, becomes probable from the readiness with which untoward symptoms arise when there is a serious deficiency of these essential food factors in the intake. In harmony with this, there are direct experimental evidences pointing to little ability on the part of animals to store vitamin B.[1] With respect to the fat-soluble vitamin, more favorable indications of some storage capacity have been secured.[2] One naturally inquires, in the light of this knowledge, as to the fate of the ingested vitamins. Are they destroyed in connection with the metabolic changes or other functions of nutrition, or are they lost in some other way? Probably excretion from the body will account for part, at least, of the rapidly acquired deficit. The urine, as well as some of the alimentary secretions, has long been stated to contain vitamin B. And now comparable findings have been put on record at the University of Chicago for vitamin A. According to Cooper,[3] on diets rich in vitamin A the urine contains a demonstrable quantity of this vitamin. On ordinary diets and in prolonged starvation, the urine is nearly, if not completely, free from vitamin A. Pure gastric juice from dogs on high vitamin A diets contains vitamin A, but on ordinary diet the gastric juice of man and of dog appears to be free from it. Cooper believes that the kidneys and the digestive glands have a "threshold" limit for vitamin A retention in the body. When the body is flooded with this vitamin by an excess in the diet, the absorption is faster than the storage and destruction; there follows a rise of the vitamin concentration in the blood, and consequent vitaminuria, and overflow into some of the digestive secretions. From the standpoint of practical dietetics, this means that, in times of stress, long periods of deprivation of adequate supplies of vitamins will find no stores of these essentials, such as the depots of fat represent for the energy needs of the body.

1. Steenbock, H.; Sell, M. T., and Jones, J. H.: Vitamin B, II, Storage of Vitamine B by the Rat, J. Biol. Chem. **55**: 411 (March) 1923. Givens, M. H., and Behrendt, F.: The Use of the Rat for the Estimation of Vitamin B, ibid. **59**: 10 (Feb.) 1924.
2. Steenbock, H.; Sell, M. T., and Nelson, E. M.: Fat-Soluble Vitamine, XI, Storage of the Fat-Soluble Vitamine, J. Biol. Chem. **56**: 327 (June) 1923.
3. Cooper, Ethel: The Distribution of Vitamin A in Urine and Some of the Digestive Secretions, Am. J. Physiol. **67**: 454 (Feb.) 1924.

NEW AMENDMENT FOR SERUM ACT

On April 11, Congressman Rathbone introduced the following amendment to Section 2 of the so-called "Serum Act of 1902":

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 2 of an Act entitled "An Act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes," approved July 1, 1902, is hereby amended to read as follows:

"Sec. 2. That no person shall falsely label or mark any package or container of any virus, serum, toxin, antitoxin, or product aforesaid, nor alter any label or mark on any package or container of any virus serum, toxin, antitoxin, or product aforesaid, so as to falsify such label or mark; nor shall any person advertise, distribute, or sell any such virus, serum, toxin, antitoxin, vaccine, or product aforesaid under any false or misleading representation as to its nature, origin, composition, physiologic reaction, or therapeutic effect."

A month ago, THE JOURNAL discussed editorially[1] a previous amendment offered by Mr. Rathbone, and called attention to certain aspects of this legislation that were considered inadvisable from the standpoint of public health. It is understood that the present bill takes into account the suggestions made in THE JOURNAL's editorial. Readers will remember that, for more than a decade, THE JOURNAL has contended that manufacturers should be required to state on the label the actual value of such products; that is to say, whether experimental or established. Furthermore, it contended that authority should be vested in the government to prevent the advertising of false or misleading statements relative to the nature and virtues of such preparations. In view of this policy, with which there can be no quarrel, THE JOURNAL does not hesitate to endorse fully the new Rathbone amendment. Physicians, with an understanding of the scientific basis for biologic products, and all who use such products only in accordance with the principles of honesty in therapeusis, can conscientiously give this amendment, known as H. R. 8618, their enthusiastic and wholehearted support.

DEHYDRATION AND INTRACRANIAL TENSION

Traumatic injuries to the brain, followed by a consequent change in intracranial tension and a train of untoward symptoms, are relatively frequent. Fracture of the skull or concussion may, for example, be attended with marked stupor, respiratory and cardiac depression, and "medullary edema." Surgical procedures not only present an added operative risk and disfigurement when it is desired to procure some degree of decompression,

1. The Rathbone Bill on Serums and Vaccines, editorial, J. A. M. A. **82**: 886 (March 15) 1924.

but also demand the services of an expert operator. It marked a real step in advance, therefore, when the proposal to secure rapid reduction of intracranial pressure and volume by the intravenous administration of hypertonic solutions was effectively applied to clinical conditions. The success of the method, usually carried out by the use of sodium chlorid to promote the osmotic withdrawal of water from the brain, has repeatedly been recorded in THE JOURNAL [1] and elsewhere. Fay [2] has lately reemphasized the advantages that may attach to the preference of magnesium sulphate (Epsom salt) over common salt. It is given by mouth, or by rectum if necessary. In contrast with sodium chlorid, the magnesium salt is relatively nondiffusible through the intestinal wall; and, not being absorbed into the blood stream, it exerts its entire effect on the vascular bed about the intestinal wall; hence the direct extraction of fluid from the circulation and the secondary withdrawal of ventricular or tissue bound fluids bring about dehydration, for the circulation calls on all the available body fluids to compensate for the depletion in blood volume by way of the intestinal tract. Tissue edema, which may attend the absorption of sodium chlorid, is averted. There are, of course, contraindications to all dehydration procedures. They should never be superimposed on shock, so that an impoverished circulation is still further depleted. But, when the indications are favorable, the possibility of relief of acute cerebral tension by the newer method should be given serious consideration before a surgical operation is attempted.

Association News

THE CHICAGO SESSION

The Scientific Exhibit

The Committee on Scientific Exhibit has passed on practically all the applications received. The exhibit promises to be larger than any previously assembled at annual sessions, and especially satisfactory in recording the progress of medical science. It will occupy 6,500 square feet of floor space on the Pier, and have about seventy exhibits. As is usual, the section that will have the largest representation will be that devoted to educational and public health activities. In the pathologic section, the local Committee on Scientific Exhibit is preparing a comprehensive exhibit of morbid anatomy; fresh material will be brought each day from the various Chicago hospitals, in addition to other extensive and instructive pathologic demonstrations, which are being prepared. The largest feature in the medical section will be the exhibit on heart study prepared by a special committee of the Association; all phases of heart study will be presented. The surgical and radiologic sections will contain unusually valuable scientific studies. To encourage friendly rivalry, the Committee on Scientific Exhibit appoints judges to award gold, silver and bronze medals, and certificates of merit. A description of the exhibits and the names of exhibitors will be published in the Chicago Number of THE JOURNAL, May 10.

1. Haden, R. L.: Therapeutic Application of the Alteration of Brain Volume by the Intravenous Injection of Glucose, J. A. M. A. **73**: 983 (Sept. 27) 1919. Sachs, Ernest; and Belcher, G. W.: The Use of Saturated Salt Solution Intravenously During Intracranial Operations, ibid. **75**: 667 (Sept. 4) 1920. Dowman, C. E.: Management of Head Injuries with Real or Potential Brain Damage, ibid. **79**: 2212 (Dec. 30) 1922. Fay, Temple: The Administration of Hypertonic Salt Solutions for the Relief of Intracranial Pressure, ibid. **80**: 1445 (May 19) 1923.

2. Fay, Temple: Comparative Values of Magnesium Sulphate and Sodium Chlorid, J. A. M. A. **82**: 766 (March 8) 1924.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Personal.—Dr. Byron B. Davis, professor of surgery, University of Nebraska College of Medicine, Omaha, gave an address before the staff of the Deaconess Hospital at Phoenix, recently.——Dr. Edward R. Cox, formerly of Fresno, Calif., has been appointed in charge of the hospital department of the Arizona Copper Company at Clifton.——Dr. Frederick Loe, Whiteriver, for many years physician to the U. S. Indian School, has been transferred to Helena, Okla.

ARKANSAS

Hospital Opened.—The new General Hospital, recently completed at Little Rock, was formally opened to the public, March 25.

Personal.—Dr. John Thames has resigned as city health officer of Little Rock to accept the position of health officer of Preston County, W. Va.——Dr. Edward W. Pollard and Dr. Eustis J. Chaffin, both of Hughes, were elected president and secretary-treasurer, respectively, of St. Francis County Medical Society at Widener, February 12.

CALIFORNIA

"Dr." Barker Denied New Trial.—"Dr." John Scott Barker, owner of a so-called "dope" cure sanatorium in Oakland, who was convicted of violating the Harrison Narcotic Law recently, was denied a new trial, March 29, by Federal Judge Kerrigan in San Francisco, and sentenced to five years' imprisonment in Leavenworth penitentiary.

Lane Lectures.—The following is the final program for the year 1924 of the Lane medical lectures to be delivered by Prof. Ludwig Aschoff, professor of pathology of the University of Freiburg, Germany, at Lane Hall, Stanford University Medical School:

May 26, "Place of Origin of the Biliary Pigment."
May 27, "Atherosclerosis."
May 28, "Ovulation and Menstruation."
May 29, "The Morphology and Function of the Adrenal Cortex."
May 30, "Fatty Degeneration."

Physicians and medical students are cordially invited to attend.

Illegal Practitioners.—"Dr." J. Espy Thompson, San Francisco, was arrested recently on a charge of causing the death of a 13 year old girl by an illegal operation, according to reports. Thompson, it is stated, confessed that in 1919 he was sent to prison for a five-year term on a similar charge and that his license to practice medicine was revoked. Misspelled medical terms on the death certificate aroused the suspicion of the coroner.——According to reports, Alfred Bach, Los Angeles, pleaded guilty to violation of the medical practice act, and was fined $100, recently. In default of payment of fine, he was committed to jail. He claimed graduation from the University of Heidelberg, Germany, but the university officials state that he never received a medical degree from there.

COLORADO

University Contracts.—The board of regents of the University of Colorado, Denver and Boulder, contracted, March 21, for the equipment of the general medical and the psychopathic hospitals of the university, now under construction, and which will be completed by September. Dr. George Norlin, president of the university, announced gifts of $180,000 from the General Education Board and $120,000 from Mrs. Verner Z. Reed.

DISTRICT OF COLUMBIA

Dr. Blue to New York.—Dr. Rupert Blue, assistant surgeon general, U. S. Public Health Service, Washington, has been appointed regional director of the North Atlantic District, No. 1, New York City, to succeed Dr. Ezra K. Sprague, who has assumed charge of the U. S. Marine Hospital No. 70, New York City.

Society Charter Amended.—By unanimous consent the House, April 4, passed the bill amending the charter of the Medical Society of the District of Columbia, so as to read

"for the purpose of promoting and disseminating medical and surgical knowledge, not for profit." This society was organized, July 7, 1838.

IDAHO

Physicians Licensed by Reciprocity.—Drs. David H. Lewis, Spokane, Wash.; Virgil P. Garst, Terry, Mont.; Orson H. Mabey, Lehi, Utah; Malcolm Irvine, Baker, Ore.; William J. Weece, Ontario, Ore.; Nathan M. Baker, Spokane, Wash., and Ralph M. Fouch, Osceola, Iowa, were admitted to practice in Idaho, under reciprocity arrangements, at the meeting of the state medical examining board in Boise, April 3.

ILLINOIS

Society Election.—At the annual meeting of the Rock Island County Medical Society, April 9, Dr. Arthur T. Leipold, Moline, was elected president; Dr. Ralph Dart, Rock Island, vice president, and Dr. Phebe L. Pearsall, Moline, secretary.

Public Health News.—The sixth annual health promotion week for Illinois is scheduled for April 20-26. Every motion picture film in the loan service of the department, plus half a dozen copies borrowed from national health agencies, has been reserved for this occasion. Health playlets in the schools and campaigns against diphtheria, initiated by civic organizations, are features of the program. Rockford, East St. Louis, Peoria, DeKalb, Quincy and other municipalities have arranged comprehensive programs.——An association of the trustees of the nine sanitary districts in Illinois has been organized. Trustees only are eligible to membership in the association, but arrangements have been made for inviting experienced sanitary engineers and others qualified to attend the regular meetings. The cities which have formed sanitary districts include Chicago (North Shore), Bloomington, Normal, Decatur, Downers Grove, Elgin, El Paso, Taylorville, Champain and Urbana.——As a means of stimulating birth registration, the state department of public health has issued engraved certificates of birth to parents of all children, except those not registered, born in the state outside of Chicago from July-November, 1923. The number of certificates already issued is approximately 30,000. Parents of children born in the period indicated, who have not received certificates are informed that the births concerned have not been properly and legally recorded.

Chicago

Hospital Additions.—The contract has been let for the seventy-five bed addition, power house and laundry for the Norwegian Lutheran Home and Hospital on Leavitt Street at a cost of $200,000.

Salvation Army Opens Hospital.—The Salvation Army formally opened a new maternity hospital and home on North Crawford Avenue, April 14, which was erected at a cost of $280,000. It was designed particularly for unmarried mothers, and will accommodate seventy-five women and forty babies.

Medical Women's National Association.—The annual meeting of the Medical Women's National Association will be held in Chicago at the same time as the annual meeting of the American Medical Association, June 9-13, under the presidency of Dr. Kate Campbell Mead, Middletown, Conn. Dr. Louise Martindale of London, England, will address the association, June 9, on "International Friendships."

New Plan for Health Board.—The mayor has submitted an ordinance to the city council providing for a board of health headed by the health commissioner and including the city physician, commissioner of public works, chief of police and corporation counsel. The Supreme Court has decided that the city cannot enforce sanitary regulations unless they have been approved by the state board of health or by a local board. The proposed new board would be empowered to make rules and regulations.

Society News.—A joint meeting of the Chicago Medical Society and the Chicago Roentgen Society was held, April 16. Dr. James T. Case, Battle Creek, Mich., spoke on "The Plastic Colon."——At the meeting of the Chicago Neurological Society, April 17, Dr. William A. White, Washington, D. C., spoke on "The Comparative Method in Psychiatry."——A joint meeting of the Institute of Medicine and the Society of Medical History of Chicago was held, April 11. Dr. John D. Comrie, lecturer in clinical medicine and the history of medicine, University of Edinburgh, Scotland, spoke on "Four Centuries of Anatomy at Edinburgh."

Willard Gibbs Medal Awarded.—The Chicago Section of the American Chemical Society awarded, April 17, the Willard Gibbs Medal to Dr. Gilbert N. Lewis, dean of the College of Chemistry, University of California. Dr. Lewis responded with an address on "The Molecule as a Magnet." This is the thirteenth annual award of the medal. Among the previous recipients have been Dr. Ira Remsen, former president of Johns Hopkins University and founder of American chemistry in its present form; Prof. Svante Arrhenius of the Nobel Institute, Stockholm; Prof. T. W. Richards, Harvard University, and Mme. Curie of the University of Paris. The medal was founded by William A. Converse of Chicago in 1911 as a memorial to Prof. Willard Gibbs, formerly a chemist at Yale University, New Haven, Conn.

INDIANA

Vaccination Enforced.—When the Indianapolis schools opened after the spring vacation, April 7, pupils were required to present a certificate of vaccination. This action was taken after twenty-four new cases of smallpox had been reported in the city. About 70,000 children were vaccinated.

KANSAS

State Board of Health Changes.—Dr. Clinton A. Laffoon, Easton, Dr. William G. Patton, Fort Scott, and Dr. Robert G. Klein, Dodge City, have been appointed members of the state board of health by Governor Davis.

City Takes Over Hospital.—The old Bell Memorial Hospital, Rosedale, has been leased to the city for use as a contagious hospital. The municipal hospital is nearly completed, and the staff will serve in the contagious hospital as well.

Golden Belt Medical Society.—At the annual meeting of this society in Topeka, April 3, Dr. Karl A. Menninger, Topeka, was elected president; Drs. Theodore Kroesch, Enterprise, and Charles M. Jenney, Salina, vice presidents, and Dr. James D. Colt, Jr., Manhattan, secretary.

Rigid Rules to Rid City of Drug Addicts.—A plan to rid Topeka of drug addicts was arranged, April 2, at a meeting called by the mayor. Any citizen may swear to a complaint that a person is addicted to the use of drugs, and such person may be taken by police officers to the city health department to be referred to the mental clinic for examination. If found an addict he will be declared mentally incompetent and will be recommended confined to the state hospital for the insane for an indeterminate period. The courts will cooperate in this plan, it is reported.

KENTUCKY

Physician Jailed.—According to reports, Dr. Moses Rosenbaum, aged 62, of Covington, was sentenced to four months in the county jail and fined $500 in the U. S. District Court, April 5, when he pleaded guilty to a charge of possessing counterfeit internal revenue stamps.

LOUISIANA

Maya Medical Laws to Be Translated.—The new department of Middle American Research at Tulane University, New Orleans, will start work immediately on a translation of the Maya medical laws from Spanish manuscripts included in the William Gates Collection, recently acquired. Medical knowledge of the Maya Indians, with their pharmacopeia of plants and their uses, will now be made possible through a university publication, the first to be sponsored by the new department. An endowment of $300,000 is available for the expenses of the department in addition to the $75,000 paid for the Gates collection.

New State Board of Health Meets.—The first regular meeting of the state board of health recently appointed was held, April 11, in New Orleans. They adopted amendments to the Sanitary Code relating to reporting of communicable diseases and others in reference to food handlers. The new board consists of: Drs. Oscar Dowling, New Orleans, president; Joseph T. Abshire, Abbeville, vice president; Camille P. Brown, New Orleans; J. Ernest Brown, Lake Providence; Walter F. Couvillion, Marksville; Fred Ratzburg, Shreveport; Theophilus T. Tarlton, Grand Coteau; Mr. Eugene H. Daste and Mrs. L. C. McVoy. Miss F. B. Nelkin was appointed temporary secretary in place of Dr. Merrick W. Swords, who resigned recently.

MARYLAND

Hospital News.—The general assembly of 1924 has appropriated $667,000 for the state hospitals for the insane and feebleminded in Maryland. New structures will be erected at all state hospitals. At Springfield two wooden cottages will

be replaced by a building to cost $142,000, increasing the capacity of the hospital by fifty; at the Spring Grove Hospital a wing to the A. D. Foster Clinic to house 100 patients will be added at a cost of $225,000; an administration building will be erected at the Eastern Shore State Hospital at a cost of $150,000, adding 100 beds to this hospital; at the Crownville Hospital, a home for the superintendent will be erected at a cost of $25,000; provision for 100 additional feebleminded children will be made at the Rosewood State Training School by the erection of a dormitory at a cost of $100,000.

MASSACHUSETTS

License Revoked.—Dr. Joseph A. Chaussé, New Bedford, was recently before the board of registration in medicine, charged with gross unprofessional conduct. The board voted to revoke his license to practice in Massachusetts.

Legislation on Tuberculosis.—The legislative committee on state administration, March 31, filed a bill to regulate the establishment and maintenance of dispensaries for tuberculosis in cities and towns of the state. The bill provides that every city and town, on order of the state board of health, shall establish and maintain a tuberculosis dispensary. These institutions will be under the supervision of the local board of health but shall be inspected by the state health department.

Gifts for Harvard University.—The trustees of the Francis estate have conveyed to the president and fellows of Harvard University, Boston, the lot at the corner of Longwood and Louis Pasteur avenues, opposite the medical school, to be the site of the new medical dormitory. The committee in charge reports that up to March 26 the total subscriptions received were $158,359, including $89,027 subscriptions from physicians. The new building will be erected at a cost of approximately $900,000 and it will house 257 students.

Tuberculosis Work in Boston.—The Boston Tuberculosis Association has undertaken to find suitable employment for certain tuberculous persons. A "placement committee" has been formed consisting of Drs. John B. Hawes, 2nd, Randall Clifford, Harry Linenthal, John Danforth Taylor, Nathaniel K. Wood, Mr. Eliot Farley, Miss Mary Lowney and Mrs. Anna Wright. Patients of the state sanatorium, whose pulmonary lesions have become inactive or arrested, will be assisted by the tuberculosis association in finding suitable work. They will be examined every month through the outpatient department of the Boston Sanatorium, to protect their fellow workmen. The association is also planning to open a summer camp for 100 children, June 1, at Prendergast Preventorium, Boston. Dr. George S. Hill is chairman of the camp committee. Boys and girls will be accepted between the ages of 5 and 12 years, who show no symptoms of active disease; have an adult case of tuberculosis in their family; respond to the Pirquet test, and who are members of a family not financially able to pay for institutional treatment.

MINNESOTA

Personal.—Dr. Edward A. Meyerding has resigned as director of hygiene of the St. Paul public schools. He has accepted the position of executive secretary of the Minnesota Public Health Association and the management of the *Northwestern Health Journal*.——Dr. Bruce W. Jarvis, Minneapolis, has accepted a position as medical missionary to China under the auspices of the Methodist Episcopal Church.——Dr. Delphin W. Kohler has been elected mayor of St. Joseph, Stearns County.——Dr. William H. Barr, Wells, has been appointed a member of the state board of medical examiners to succeed Dr. Aaron F. Schmitt.

MISSOURI

Personal.—Dr. Ralph A. Kinsella has been appointed director of the department of internal medicine, St. Louis University School of Medicine, and physician-in-chief at the university hospitals. Dr. Kinsella, who is at present acting head of the department of medicine of Washington University, will assume his new duties, August 1.

Physicians at Eleemosynary Institutions.—Dr. George A. Johns, superintendent of St. Louis Training School for the Feebleminded, has resigned to become state health supervisor of all the eleemosynary institutions to succeed Dr. George P. Ard of St. Louis, who resigned recently.——At a three-day meeting in Fulton, recently, the assistant physicians at the eleemosynary institutions organized and elected Dr. David H. Young, Fulton, president, and Dr. C. B. Brown, Farmington, secretary. They will meet once in two months.

Zoning System to Aid Mothers.—In an agreement between the city and St. Louis and Washington universities, St. Louis will be zoned so that mothers and expectant mothers will be able to secure medical attention within a distance of ten blocks from their homes. The agreement followed a survey by the prenatal committee of the Community Health Council, which covered all phases of maternal service and maternal and infant mortality for the year. The zoning system is an experiment but will become permanent if productive of good results this year.

MONTANA

State Board of Health Election.—At the annual meeting of the board in Helena, April 3, Dr. Enoch M. Porter, Great Falls, was elected president; Dr. Elmer G. Balsam, Billings, vice president, and Dr. William F. Cogswell, Helena, was reappointed secretary.

Medical Society Election.—At the recent annual meeting of the Western Montana Medical Society in Missoula, Dr. James M. Graybeal was elected president; Dr. Allen R. Foss, vice president, and Dr. John P. Ritchey, secretary-treasurer. This society was organized more than twenty years ago as the Missoula County Medical Society. It now represents Missoula, St. Ignatius, Stevensville, Philipsburg, Hamilton, Ronan, Alberton, Darby and Superior.

NEW JERSEY

Illegal Practitioners Sued.—Suits were filed, March 29, by the state board of medical examiners at Trenton against Meade H. Whiteside, chiropractor, and Hazel Roche, mechanotherapeutist, for alleged violations of the medical practice act. This is Whiteside's second offense.

Hospital News.—Thirteen buildings will be erected as a tuberculosis hospital group at Camden. Bids will be taken April 24.——A county maternity building will be erected at Jersey City in the near future.——A new building will be erected at St. Peter's General Hospital, New Brunswick, at a cost of $300,000.

NEW YORK

Bill to Stop Quackery.—Assemblyman Kennedy of Queens has introduced a bill authorizing the state commissioner of education, the state commissioner of health and the attorney general to begin an investigation to determine to what extent medicine is being unlawfully practiced, and to prosecute all violations. This bill would appropriate $50,000 to make the survey.

New York City

Society News.—Philadelphia surgeons affiliated with the Philadelphia Obstetrical Society visited Brooklyn, April 8, to attend a series of operations at the Long Island College Hospital, under the auspices of the Brooklyn Gynecological Society.

Chiropractor Fined.—Henry H. Austin, a chiropractor, living at 524 West One Hundred and Eighty-Fourth Street, Manhattan, was fined $100 in Special Sessions, April 11, on pleading guilty to practicing medicine without a license. Assistant District Attorney Ford, who prosecuted Austin, stated that it was the first conviction of the kind in that court.

Chiropractic Laboratories Closed.—The New York Roentgen-Ray and Pathologic Laboratories, a trade name for the Roentgen-Ray and Dental Laboratories, Inc. (Edward L. Crusius, "Sc.R.," president), went into the hands of a receiver the first week in April, and were sold at auction. Their stock-selling campaign was exposed last fall when they appealed to the public and tried to broadcast their book, "The Open Door to Health."

Industrial Disease Clinic.—Under the joint auspices of the Reconstruction Hospital, New York, and the industrial hygiene division of the state department of labor and the College of Physicians and Surgeons an industrial hygiene clinic has been established in the Reconstruction Hospital. The clinic will provide opportunity for the diagnosis and treatment of occupational disease that affects workers in many industries. Treatments will be given daily from 9 to 5 o'clock with the exception of Saturday, when the clinic will close at noon.

Personal.—Dr. Harry Landesman has been appointed anesthetist to the Memorial Hospital.——Dr. Carleton Simon, special deputy police commissioner, spoke before the West Flatbush League, March 11, on "Narcotics."——A dinner was tendered to Dr. Roger H. Dennett, March 10, at the Hotel Astor, by the pediatric department of the New York Post-Graduate Medical School and Hospital. Dr. Dennett is director of the pediatric department.——Dr. David E. Hoag has been made clinical professor of nervous and mental diseases on the reorganized

faculty of the New York Polyclinic Medical School and Hospital.——Dr. Philip A. Brennan, Brooklyn lawyer, has been appointed professor of medical jurisprudence on the staff of the Brooklyn Law School. Dr. Brennan was formerly a physician.

Cooperative District Health Center.—Health Commissioner Frank J. Monaghan, in a statement recently made public through the American Red Cross, declared that the three-year demonstration of team-work between the twenty-two public and private health and social agencies in the East Harlem Health Center, has brought out two facts: (1) The services which the city health department and the private health and social agencies render to the 112,000 people of the district have increased 110 per cent. at the remarkably small gain of only 11 per cent. in cost. (2) The experience in New York City indicates clearly that these methods are applicable to cities throughout the country.——A film, entitled "It Works," tells the story of how twenty-two health agencies, headed by the department of health, came together under one roof at the American Red Cross, and have worked together successfully for almost three years at the East Harlem Health Center. The film is at the disposal of health and welfare agencies free of charge, except for transportation. The health center will be glad, if desired, to send a speaker to accompany the film to explain in detail how the center was planned and a program for the neighborhood worked out. The film is a part of a program recently announced by Mrs. August Belmont of the executive committee of the American Red Cross, whereby the details and results of the health center experiment will be made available to every important community in the United States.

OHIO

Physician Sentenced.—Dr. Charles S. Emery, Toledo, March 27, was sentenced to an indeterminate sentence in the Ohio penitentiary, with a minimum of three years by Judge Martin, according to reports. Dr. Emery was found guilty of performing an illegal operation which resulted in the death of a young girl. He was released on bond of $10,000 pending error proceedings.

OKLAHOMA

Personal.—Dr. Charles R. Hume, Anadarko, former president of the state medical association, recently celebrated his fiftieth year of practice.——Dr. John M. Williams and Dr. Ben H. Cooley, both of Norman, were elected president and secretary-treasurer, respectively, of the Cleveland County Medical Association at the annual meeting, recently.

OREGON

New Medical Societies.—Physicians of Hood River, Wasco, Sherman and Gilliam counties held a meeting at The Dalles, March 22, for the purpose of organizing the Mid-Columbia Medical Society. Dr. Willard N. Morse, Wasco, was elected president; Dr. Fred F. T. Thompson, The Dalles, vice president; Dr. Vern Hamilton, The Dalles, secretary, and Dr. John W. Sifton, Hood River, treasurer. Dr. Otis B. Wight, Portland, was the guest of honor and read a paper on "Radium." Dr. Morse was elected delegate to the state medical society meeting. The society will meet the second Wednesday of each month.——The Central Oregon Medical Society, inactive for the last few years, was reorganized, March 29, at a meeting in Bend. Dr. J. Clinton Vandevert, Bend, was elected president; Drs. John H. Rosenberg, Prineville, and Jacob F. Hosch, Redmond, vice presidents, and Dr. Roy W. Hendershott, Bend, secretary.

PENNSYLVANIA

Allegheny County Medical Society.—At the annual meeting of the society in Pittsburgh, April 8, the following officers were elected for the ensuing year: president, to succeed Dr. Ernest W. Willetts, Dr. Harold A. Miller; vice president, Dr. Charles G. Eicher; secretary, Dr. William H. Mayer, and treasurer, Dr. Robert L. Anderson. The president-elect of the state society, Dr. John Norman Henry, Philadelphia, gave the address of welcome, and Dr. William H. Kirk, Pittsburgh, gave an illustrated lecture on "Big Game Hunting in Northern British Columbia."

Philadelphia

Society News.—The section on otolaryngology of the College of Physicians of Philadelphia invited the sections on otology and rhinolaryngology of the New York Academy of Medicine to attend a meeting in Philadelphia, April 16. A special car left New York at 4 p. m. and returned from Philadelphia at 10:15 the same evening. Among the speakers were: Drs. Chevalier Jackson, Seth MacCuen Smith, George Fetterolf and James A. Babbitt.

University News.—The annual meeting of the Undergraduate Medical Association of the University of Pennsylvania School of Medicine was held, April 4. Mr. Charles H. Best, University of Toronto, lectured on the "Discovery and Development of Insulin." The annual Mary Ellis Bell prize for medical research was given to Messrs. Landis, Long, Dunn, Jackson and Meyers (second year students) for a study of the "Effects of Hot Baths on Respiration, Blood and Urine."

Dr. DaCosta Honored.—A portrait in oil of Dr. John Chalmers DaCosta, professor of surgery, was presented to the Jefferson Medical College by the class of 1924. William J. Snow, president of the class, made the presentation, and Dr. Ross V. Patterson, dean, accepted the gift in the name of the college. Dr. DaCosta has been compelled temporarily to deliver his lectures from a wheeled chair, due to an illness from which he is slowly recovering. Dr. DaCosta was graduated from Jefferson Medical College in 1885 and has been affiliated with the college ever since that time, serving as assistant demonstrator of anatomy and since 1900, as professor of surgery.

Expenditures for Social Work.—The All-Philadelphia Conference on Social Work was held, April 8-10. Addressing a luncheon of the conference at the City Club, Sherman C. Kingsley, executive secretary of the Welfare Federation, outlined the welfare activities of the city, which totaled $27,640,000 last year and gave the following table showing how the money was spent:

Hospitals and dispensaries	$10,662,000
Child-caring agencies	5,021,000
Recreation and neighborhood service	3,376,000
Mental health	2,716,000
Relief and family service	1,271,000
Extra institutional health service and sanitation	1,251,000
Aged and adults	1,164,000
Reformation agencies	925,000
Physically handicapped	776,000
Research and social planning	478,000
Total	$27,640,000

According to the executive secretary's statement, $8,717,000 is expended from tax money and $18,923,000 is given through private agency sources.

Personal.—Dr. Frank C. Hammond, Philadelphia, dean of Temple University Medical School, has been appointed to the chair of gynecology in the university to succeed Dr. Wilmer Krusen, now director of public health in the city of Philadelphia.——Drs. William L. Clark and Eugene J. Asnis gave Mayo Foundation lectures in Rochester, Minn., during the week of April 7-12.——Dr. Frank Wadsworth, Los Angeles, will be the guest speaker at the meeting of the Academy of Stomatology, April 22.——Prof. Ludwig Aschoff of the University of Freiberg, Germany, will deliver a lecture on "Gallstones and the Pathology of the Biliary Passages" before the Philadelphia County Medical Society in the College of Physicians, April 23.——Rear Admiral Edward R. Stitt, Surgeon General, U. S. Navy, was the guest of honor at a reception given in the Bellevue-Stratford by the Medical Club of Philadelphia, April 11. Admiral Stitt, who holds degrees from the University of Pennsylvania and the Jefferson Medical College, spoke on medical progress in the Philippines.——Dr. Lewellys F. Barker, emeritus professor of medicine, Johns Hopkins University, addressed the third annual meeting of the Philadelphia Association for the Prevention and Relief of Heart Disease, April 16.

UTAH

State Society to Amend By-Laws.—It is proposed to amend the constitution and by-laws of the Utah State Medical Association, so that the calendar year shall be the fiscal year. As the amendments now read, the fiscal year ends March 31, and it is proposed to have it end December 31. The association is taking this action in conformity with a request of the American Medical Association.

VIRGINIA

Chair of Nursing at State University.—The proceeds from pageants held in various cities of Virginia by the foundation fund committee of the Graduate Nurses' Association on Florence Nightingale Day, May 12, will go toward a $50,000 fund which the association has pledged itself to raise for endowing a chair of nursing at the University of Virginia.

Walter Reed Medical Society.—The annual meeting of the Walter Reed Medical Society will be held at Newport News,

May 14-15, under the presidency of Col. Louis A. Thompson, Hampton. At this meeting some action will be taken regarding cooperation with other medical societies in the purchase of the birthplace of Dr. Walter Reed.

Bill to Prohibit Racial Intermarriage Passes House.—Senate Bill 219, which passed the house, March 8, would make it unlawful for any white person in Virginia to marry any save a white person, or a person with no other admixture of blood than white and American Indian. "For the purposes of this act, the term 'white person' shall apply only to persons who have no trace whatsoever of any blood other than Caucasian; but persons who have one-sixteenth or less of the blood of the American Indian and have no other non-Caucasian blood shall be deemed white persons."

WISCONSIN

Hospital News.—It has been decided to erect a $55,000 addition to the Dodgeville Lutheran Hospital, Dodgeville.——Construction work has been started on an addition for St. Mary's Hospital, Watertown.——Bids will be taken about April 15, for the first unit of the $1,000,000 hospital which will be erected for St. Catharine's Hospital, Kenosha.——The new sixty-bed addition to the Wausau Memorial Hospital, Wausau, will be ready for occupancy, May 1.——The building committee of the Sheboygan County Tuberculosis Sanatorium has rejected bids for the proposed new building. Revised plans are being drawn.

WYOMING

Personal.—Charles E. Fish, Wheatland, has been appointed health officer of Platte County.——Dr. Isaac N. Frost is now in charge of the newly opened Lincoln Street Hospital at Casper.——Dr. Edward W. Croft, Lovell, has been appointed health officer for the entire north end of the Big Horn basin.

CANAL ZONE

Public Health Work.—The Rotary Clubs of Panama and Colon have included in their annual program the stimulation of preventive medicine as a governmental function. The plan includes the extension of the dispensary system in the interior so that it will include prevention as well as cure; an attack on tuberculosis, hookworm and malaria; child hygiene, and the utilization of the forces of the Rockefeller Foundation to the fullest extent.

Maritime Quarantine Conference. — President Porras appointed Dr. August S. Boyd, chief surgeon of Santa Tomas Hospital, and Dr. William C. Rucker, chief quarantine officer, delegates to the Conference on Maritime Quarantine of the West Coast of South America (THE JOURNAL, February 2, p. 400), held in Panama, February 25-29. Dr. Sebastian Lorente and Dr. Carlos Enrique Paz Soldan, represented Peru; Surgeon Samuel B. Grubbs, Washington, D. C., went as delegate of the Pan-American Sanitary Office, and Dr. John D. Long, Washington, D. C., U. S. Public Health Service, represented the maritime quarantines of the United States; Dr. Carlos A. Mino, deputy national health commissioner of Ecuador, also attended. The meetings were held in the National Theater.

CANADA

Town Without Waterworks Fined.—The town of Forest in the county of Lambton, Ontario, having been served with an order of the provincial board to establish a system of waterworks and having failed to obey the order, was recently fined the sum of $1,400 and costs for this neglect by Police Magistrate Woodrow. The council of the corporation has now agreed to obey the order.

Venereal Disease Appropriation Cut.—The dominion government has cut $50,000 from the usual $200,000 granted to various provinces annually for the control of venereal disease. Organizations and individuals interested in public health work have been urged to protest to the dominion government against this step; venereal disease, it is said, is one of the most serious public health problems in Canada.

University News.—A complimentary dinner was given by the faculty and alumni of the school of medicine of the Manitoba Medical College, Winnipeg, recently, to Dean S. Willis Prowse, on the occasion of the medical school receiving Class A rating. Dr. Edward W. Montgomery acted as chairman. It was announced that with a sum of money raised by the faculty and alumni of the medical school the Prowse prize would be established.

Public Health News.—The epidemic of smallpox has spread to Brockville, Ont., where twelve cases have been reported in the last week; six of these cases are from the church seminary where the outbreak was first noticed.——Despite opposition that developed in South London, Ont., to the request of the board of health that people submit forthwith to vaccination, men, women and children continue to flock to the physicians' offices in the city, and to the outpatient department of the Victoria Hospital to be vaccinated.

Hospital News.—Operations have been commenced in the construction of two new wings to St. Joseph's Hospital, Guelph, Ont., at an estimated cost of $140,000. The additional accommodation will provide for fifty extra beds, quarters for the nursing staff, and two new operating rooms.——An asylum for the chronic insane of Halifax County, Nova Scotia, will be erected in the near future at a cost of about $200,000. The institution will be located at Windsor Junction.——A $30,000 hospital will be erected at Alert Bay, British Columbia, by the Columbia Coast Mission. It will contain thirty-eight beds.——A bronze tablet has been placed in the operating room of the recently opened hospital in Clinton, Ont., in honor of Dr. William Gunn.——A new laboratory for medical research has been established in connection with the General Hospital, Hamilton, which was made possible by a donation of $10,000 by Mr. F. F. Dalley. Goiter has been selected as the first subject for study.

Personal.—Dr. Walter W. White has retired from service at the General Public Hospital, St. John, N. B., on reaching the age limit. He will remain on the consulting staff.——George E. Vincent, director of the Rockefeller Foundation, New York City, was the guest of honor at the forty-second annual banquet of the McGill Medical Society in Montreal, February 15.——Dr. Edward W. Archibald has been appointed professor of surgery and director of the department, McGill University Faculty of Medicine; Dr. Alfred T. Bazin has been made professor of surgery, representing Montreal General Hospital, and Dr. Edmond M. Eberts, associate professor of surgery.——The degree of doctor of laws will be conferred by the University of Aberdeen on Dr. J. J. R. MacLeod, codiscoverer of insulin with Dr. Banting, at the University of Toronto.——Dr. Maurice M. Seymour, Regina, commissioner of health, Saskatchewan, was the representative of the Canadian Public Health Association to the League of Nations' Health Conference in Geneva, Switzerland, recently.——Dr. Richard Howey has been elected chairman of the Owen Sound Board of Education.——Dr. John McAlpine, Lindsay, has resigned as city health officer after thirty-five years of service.

GENERAL

Plague in India.—According to dispatches from Lahore 25,000 persons died in India in March from plague, which is epidemic in the Punjab district.

Health Education Conference.—At the invitation of the Massachusetts Institute of Technology a working conference in health education is to be held, June 23-28, at Cambridge, Mass. The conference called by the health education division of the American Child Health Association will be limited to 100. Registration must be made in advance. Address Emma Dolfinger, 370 Seventh Avenue, New York City.

Warning.—Dr. Charles P. Emerson, dean of the Indiana University School of Medicine, Indianapolis, writes to enquire: "If any more physicians have within the last few months, i. e., since this warning appeared in THE JOURNAL, been solicited for money by a young man who claimed to be either myself, or if he found the doctor knew me, my son? He has been described as medium height, slender, blonde, smooth faced, between twenty-five and thirty years of age. Those who know me personally cannot be mistaken, and I would add that my oldest son is only eleven years old."

Therapeutic Machine Agents.—Harry Brundidge, the St. Louis reporter who exposed the Missouri diploma mills, states in his report that Dr. Ralph A. Voigt took him to the office of Dr. Oscar A. Young at Twelfth and Grand avenues, Kansas City, Mo., where he purchased, for $150, an alleged therapeutic machine (a device supposed to be similar to that exploited by Albert Abrams and his cult). Dr. Young, a graduate of Rush Medical College, Chicago, had his Missouri license revoked in 1919 for one year for illegal advertising and soliciting patronage through agents in violation of the medical practice act.

Gift Tax Struck from Bill.—In reporting the Tax Reduction Bill to the Senate, the Committee on Finance struck out the gift tax provision which had been inserted by the House of Representatives. Objections to such tax were made by charitable and community fund organizations which asserted that

the inevitable result of a gift tax would be that those who have been supporting hospitals and educational institutions would cease making large contributions for such uses. The House proposal placed a very high tax on large gifts; it placed a tax of 6 per cent. on all gifts in excess of $250,000; 15 per cent. on gifts in excess of $1,000,000.

Census of Public Health Nursing.—The National Organization for Public Health Nursing is taking a census of public health nursing, for the purpose of ascertaining the number of organizations employing public health nurses and the number employed. It is hoped also to get accurate information on the number of negro nurses engaged in public health work. The plans for the first census will not include gathering of information about nurses employed by industries or by hospital social service departments. It is expected that all the states will be covered before October 1. After this the census will be taken every two, three or five years.

Society News.—The annual meeting of the Southern Minnesota Medical Association will be held, May 19, at Mankato, Minn., under the presidency of Dr. Fred P. Strathern, St. Peter. Dr. Dean Lewis, Chicago, and Dr. William J. Mayo, Rochester, Minn., will give addresses following the banquet. ——The Southern California Medical Association held its seventieth annual meeting at Santa Barbara, April 4-5. Dr. William J. Kerr, San Francisco, Dr. Karl Meyer, director of the Hooper Foundation for Medical Research, and Dr. David Starr Jordan, chancellor of Stanford University, gave addresses. Dr. Egerton L. Crispin is president and Dr. Charles T. Sturgen, secretary-treasurer.

Antinarcotic Campaign.—It is announced by the General Federation of Women's Clubs that a nation-wide drive will be organized against the drug evil. Six regional chairmen have been appointed who will in turn appoint state chairmen. The plan for the campaign is threefold: (1) Cooperation with the government plan of international control of narcotics at source of supply; (2) requests to congress that it name a congressional committee to study all phases of the drug evil and to make report of its findings, and (3) the launching of a campaign in every community for the purpose of teaching in schools, factories and other places where children and workers gather, the danger of the use of narcotics.

Bill on Corrosives at Hearing.—A public health bill of unusual importance has been introduced by Representative Griest of Pennsylvania, to place under federal control the shipment and sale of corrosive acids, alkalis and lye. At the present time there are only two states which have laws regulating the manufacture of lye. Children are often innocent victims of careless handling of lye and other corrosives. Legislation of this character is urgently needed and hearings will soon be held by the Committee on Interstate and Foreign Commerce before which the bill is pending. It is understood that several of the larger manufacturers are ready to approve the bill.

Secretary of Labor Approves Extension of Maternity Act.—Secretary of Labor James J. Davis, in a letter to the chairman of the House Committee on Interstate and Foreign Commerce, has approved the bill extending the provisions of the federal Infancy and Maternity Act to Porto Rico. This law, as originally passed, granted subsidies only to the states, and in approving a measure to grant subsidies to Porto Rico Secretary Davis apparently has ignored the warning of President Coolidge that "the financial program of the chief executive does not contemplate the expansion of these subsidies." In his address to government departmental heads at Convention Hall, January 22, the President stated that his policy is not alone predicated on the drain which these subsidies make on the treasury, but that the broadening of these government activities is detrimental to the federal and state governments. If Congress passes the House bill broadening the maternity law to include Porto Rico, this measure would doubtless face a Presidential veto in view of the announced policy of President Coolidge to department heads, January 22.

LATIN AMERICA

Typhoid in Honduras.—An epidemic of typhoid has broken out in Tegucigalpa, Honduras, and conditions are reported as deplorable.

Personal.—Dr. A. B. Vasconcelos, professor in the Mexican Military Medical School and editor of the *Gaceta Médica de Mexico*, who is visiting clinics in the United States, is at present in Chicago.

Spanish-Latin American Specialists' Congress. — The Hispano-American Association of Otorhinolaryngologists was organized at the international otology congress at Paris in 1922. Plans are now being made for a meeting of the association at Zaragoza in April, 1925. Dr. Ariño is the secretary and Dr. Botey will preside. One of the aims of the association, it is stated, is to work for the acceptance of Spanish as one of the official languages at international gatherings, on a par with English, French, German and Italian.

FOREIGN

League of Red Cross Societies.—The third biennial meeting of the general council of the League of Red Cross Societies will be held the last week in April at the new headquarters building in Paris. It now numbers fifty-one national societies.

Fund for Cancer Research.—The Belgian minister of the interior and of public health has included in his budget a proposal to expend 1,000,000 francs during 1924 on a campaign against cancer. Cancer clinics would be established in all of the larger communities.

National Medical Association of China.—The fifth biennial conference of the National Medical Association of China was held in Nanking, February 7-12, and the following officers were elected for the next biennium: president, Dr. W. L. New; vice presidents, Drs. L. S. Woo and T. M. Li; secretaries, Drs. C. L. Kau and W. S. New, and treasurer, Dr. K. Chow.

University News.—In April, 1927, the Imperial University of Tokyo will celebrate its semicentennial. Invitations will be sent to all the principal universities, academic associations and educational institutions in Europe and America. It was planned, following the destruction of its library and other buildings during the recent fire, to move the university out of the city, but the board of senators has decided that the institution shall remain where it is.

Exchange Health Officers in England.—In the courses for health officers arranged by the health section of the League of Nations recently held in England (the previous course was held in the United States), twenty-three nationalities were represented. Some of the visitors who attended the course were: Holland, Dr. J. J. R. Moquette; Belgium, Dr. Norbert Enseh; Jugoslavia, Dr. D. Ristovic; Russia, Dr. Vladimir Ivanoff; Switzerland, Dr. Paul Lauener; Hungary, Dr. K. Pauer; Poland, Dr. Stanislas Kopczynski; France, Dr. A. Loir; Czechoslovakia, Dr. Eugen Strouhal; Great Britain, Dr. Raymond Gamlin; Austria, Dr. Hans Redtenbacher, and Italy, M. F. Giorgio Veniali.

Italy Establishes Royal School of Dentistry.—A new law which has been promulgated in Italy to govern the practice of dentistry requires the establishment of a Royal School of Dentistry which will be a part of the Royal University. The state has donated ground adjoining the policlinic of the university where a number of buildings are to be erected and in operation by Oct. 1, 1924. Dr. Chiavaro, state professor and director of the Clinical Institute of Dentistry in the Royal University of Rome, has announced that the course in the new dental school will cover six years of study, the first four of which will be in medicine and the last two in dentistry. The last year will be given over exclusively to the practice of dentistry in the public dispensary and clinic under the control of demonstrators.

Japanese Hospital News.—A tent hospital with a capacity for 448 beds and costing 2,000,000 francs has been given to Japan by the newspaper union of France as a token of sympathy in the recent earthquake. It has been erected on the site of Count Armima's house in Shiba.——An American hospital will be erected in Japan with the $3,000,000 surplus from the American Red Cross Relief Fund.——The Japan Seamen's Relief Association will erect a seamen's home and hospital at Yokohama. It will be modeled after the Seamen's Home in London, England.——The Italian government also has donated a hospital to the Japanese government to care for the earthquake sufferers in Tokyo.——A drive for funds with which to rebuild St. Luke's Hospital, Tokyo (American), will be conducted in the United States by Bishop McKim. The sum of $2,300,000 is needed to rebuild the institution, which was destroyed during the recent earthquake.

Personal.—Sir William M. Bayliss has been elected a corresponding member of the Belgian Academy of Medicine. ——Sir Anthony Bowlby, surgeon to the king of England, has been elected chairman of the Radium Institute of Great Britain to succeed the late Sir Malcolm Morris.——Dr. Richard Lake has been appointed professor of otology at the University of London.——Dr. Hou-Ki-Hu of China has completed a two years' course in child welfare work at Johns Hopkins University, Baltimore. After a study of child health demon-

strations in various cities, he will sail from Seattle, September 5, for Peking, where he will take the chair of hygiene in the Union Medical College, Peking.——Dr. Sata has resigned as medical director of Osaka Medical College (Japan).——Dr. Kitasato of the Kitasato Institute for Infectious Diseases has been created a baron by the emperor of Japan for his services to the Red Cross.——Dr. D. P. Marais of Capetown, South Africa, has left for the United States to study tuberculosis at Johns Hopkins University, Baltimore, and at Saranac Lake, N. Y.——Dr. A. M. Kennedy, professor of medicine at the National Medical School of Wales, has been succeeded as dean of the school by Dr. Graham Brown.——The radiologist of the Mustapha Hospital in Algiers, E. Deligny, has recently had an arm amputated on account of roentgen-ray injury. He has been made a knight of the Legion of Honor.——Our German exchanges mention that the Cyon prize, awarded biennially since 1911 by the Academy of Sciences at Bologna for preeminent work on physiology, has been given this year to Loewi of Graz for his work on "Humoral Transmission of the Action of the Heart Nerves." This work was mentioned in THE JOURNAL, Jan. 5, 1924, p. 72.

Deaths in Other Countries

Dr. **Donald Hood,** former medical examiner for the University of Cambridge and the Foreign Office; physician to the West London Hospital until his death, recently, at the age of 76.——Dr. **F. H. Rinne,** formerly professor of surgery at Greifswald and later surgeon to the Elisabeth Hospital at Berlin.——Dr. **H. Wolpert,** professor of hygiene at Berlin and author of works on ventilation and heating, aged 58.——Dr. **Lambling,** professor of organic chemistry at Lille.——Dr. **Voïslav Soubbotitch,** professor of clinical surgery in the University of Belgrade and one of the founders of the Belgrade Faculty of Medicine, aged 64.——Dr. **Spielberg,** a well known physician of Siberia, who accidentally spilled an emulsion of plague bacilli on her apron, died of plague forty-eight hours later.——Dr. **Klynens** of Antwerp, founder and president of the Belgian Société de Radiologie and on the editorial staff of the *Journal de radiologie,* a pioneer in roentgenology.——Dr. **T. D'Evant,** professor of embryology at Naples and writer on anatomy and surgery.——Dr. **E. Saul,** noted for his experimental research on the biology of tumors and bacteriologic cultures.——Dr. **E. Laget,** emeritus professor of clinical medicine at Marseilles, aged 75.——Dr. **G. Costamagna,** physician to the royal family of Italy, aged 48.

CORRECTION

Proposal of Professor Laurent.—In the Belgium letter (THE JOURNAL, April 5, p. 1135) it was stated that Professor Laurent presented a plan for periodic physical examinations to the Academy of Medicine at Paris in 1912. The date was in error, and should have been 1922.

Government Services

Dr. Cumming Attends Foreign Conferences

Surg. Gen. Hugh S. Cumming has sailed for Europe to inspect the activities of U. S. Public Health Service officers stationed in foreign consulates and to attend the meeting of the body known as the Office international d'hygiene publique. He will also attend an immigration conference to be held at Rome, May 15. During the absence of Surgeon General Cumming, Asst. Surg. Gen. M. J. White, the ranking officer of the bureau, will be in charge.

Citizens' Training Camps

Plans are being completed in the War Department for the training of 28,000 men between the ages of 17 and 24 in the Summer Citizens' Military Training Camps. Any healthy normal young man is eligible; the government pays railroad fare to and from the camp and all expenses while at the camp. Every applicant is given a careful physical examination. He is supplied with a complete uniform of regular military clothing. The opportunity of acquiring an elemental training in military tactics and for physical improvement are essential parts of the summer military camp program. The Corps Area Commanders of the various districts of the country will receive applications for entry or they may be transmitted to the Adjutant General, War Department, Washington, D. C.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 24, 1924.

Action of a Physician Against the British Medical Association

An extraordinary action of a physician against the New South Wales branch of the British Medical Association has just terminated in the court of appeal. Dr. G. S. Thompson was a member of the branch, and practiced in Sydney. In 1920 a woman, who consulted him, gave particulars of wrongful detention in a lunatic asylum for four or five years. He communicated with her physician, telling him that he was convinced of her sanity, but the result was that she was again removed to an asylum. Dr. Thompson took steps to secure her liberation, and communicated with the ministry, which declined to act. He then started a press campaign, contending that it was an outrage that private practitioners should have the power to imprison people. In heading a deputation to the acting premier, he said: "Any doctor can give a medical certificate for insanity. I am not such a fool as to think that there are no doctors capable of being bribed and bought." The New South Wales branch of the British Medical Association took exception to Dr. Thompson's statements, and referred the matter to the ethical committee. An inquiry into the woman's sanity was held by Mr. Justice Street, the judge in lunacy, who decided against her sanity. Dr. Thompson published correspondence that took place between him and the association, and argued that it showed the kind of "persuasion" by which physicians were intimidated to prevent them from doing their duty to the public and promoting justice. In the end, the association held that Dr. Thompson had been guilty of conduct derogatory to the honor of the medical profession, and expelled him. Dr. Thompson then brought an action for damages against the association and was awarded $10,000 damages by a majority of the jury. This verdict was set aside on appeal by the supreme court in Australia. The doctor then appealed against this judgment to the judicial committee of the privy council in London.

In delivering judgment, Lord Atkinson pointed out that, on becoming a member of the association, the doctor received a copy of its rules, and, until this action began, apparently found no fault with them. He then discovered that they contained many oppressive, if not illegal, provisions. Lord Atkinson read parts of the memorandum and articles of the association stating that among the objects of the association were the following: "To advance the general and social interests of the profession. To promote fair and honorable practice. To suppress malpractice. To settle disputed points of practice and to decide all questions of professional usage and courtesy." If the conduct which the association aimed at establishing was to be kept up, it was obvious, he said, that means should be provided of getting rid of a member who violated the rules or whose conduct offended against the honor or interests or repute of the profession. Accordingly, it was provided that a member might be expelled by a resolution of council if carried by three fourths of the members, subject to confirmation by a general meeting. Another rule provided that when any physician shall have been declared by the council to have been guilty of conduct detrimental to the honor and interest of the profession, or to have grossly contravened the custom of the profession, or to have acted detrimentally to the association, no member shall consult with or extend professional recognition to him in any other form until it shall have been otherwise decided by the council. During the argument it was urged that this rule operated in general restraint of trade and was therefore void.

That involved a misuse of language. Even if it did so operate, it would not be void at common law but merely unenforcible, while under the Trades Union Act it would be valid at law but not directly enforceable. That rule was framed long before the appellant became a member. It was not directed at him. The respondents had not attempted to enforce it in any way whatever. It was not designed to coerce. It could coerce—if coerce at all—members of the association. People who never were members, or, like Dr. Thompson, had ceased to be members, might snap their fingers at the association, and meet in consultation any one they pleased. The object of the rule was not to injure Dr. Thompson or any former member, but to keep up the discipline and morale of the members, and to protect and promote the interests of the association, though indirectly and as an entirely undesigned result, some injury might incidentally be suffered by an expelled member. The difference between two such intentions was well established in trade competition. The contract between the appellant and the association was entered into when he became a member. By that act he must be held to have agreed to be bound by its rules and regulations. The appellant might have been quite right in starting a public agitation on the subject of the woman's treatment, but he had no right to make, by insinuation, the grossest charges against his brother professionals. They were calumnious. The court was of the opinion that the appeal failed on every ground and must be dismissed with costs against the appellant.

Sir William Macewen: The Father of Brain Surgery

The death of Sir William Macewen, at the age of 75, has removed the pioneer in the surgery of the brain. Born in Bute in 1848, he graduated in 1869 at the University of Glasgow and served as house surgeon at the Royal Infirmary. In 1872, he went to the continent for foreign study. Five years later he was elected surgeon to the infirmary, and immediately adopted the antiseptic method of Lister, which was only beginning to make headway. In 1881 he was appointed lecturer on surgery at the Royal Infirmary. The localization of brain functions, which began in 1861 with Broca's description of the speech center, was amplified by Hughlings Jackson, and put to the test of experiment by Fritsch and Hitzig in 1870 and by Ferrier in 1876. Macewen was the first to apply this doctrine to surgery. As early as 1876 he demonstrated that an abscess could be localized in the brain, but not till 1879 did he have an opportunity of opening the skull for the relief of intracranial tension. In 1888, at the Glasgow meeting of the British Medical Association, he delivered an address on cerebral surgery that rendered him forever famous. He showed how he had entered the field of cerebral disease, new to surgery, and operated on twenty-one patients with only three deaths. He was also beginning to expose the spinal cord for the relief of paralysis due to pressure. From home and abroad, distinctions were then showered on him. He was elected F.R.S. and was made a Fellow of the Royal Colleges of Surgeons of England and of Ireland, and a member of the Imperial Academy of Military Medicine of St. Petersburg and of the surgical societies of all the civilized countries. In 1892 he was appointed regius professor of surgery at the University of Glasgow. He was president of the British Medical Association in 1922, and of the Société internationale de chirurgie when it met in London in 1923. In addition to brain surgery, he did much original work of the first importance. He was early attracted to orthopedics, and became a great innovator in operations for deformities and the correction of faulty union of the long bones. His "linear osteotomy" for genu valgum has become classical. His original work on the growth of bone, the surgery of the lung and the treatment of hernia are well known. Among his published works, all of the first importance, are "Pyogenic Infective Disease of the Brain and Spinal Cord"; "The Growth of Bone"; "Atlas of Head Sections," and "The Growth and Shedding of Antlers." His activity continued until the end. During the war, he acted as consulting surgeon to the naval forces in Scotland. Last year, he went by way of America and New Zealand to Australia to represent the parent association at the meeting of the Australian branches of the British Medical Association, and received a memorable reception from the government as well as from the profession.

Another Dogs' Protection Bill Rejected

In the house of lords, Lord Banbury, who, when a member of the house of commons, brought forward similar bills, moved the second reading of the dogs' protection bill. He said that it was not an attempt to do away with vivisection but to exempt dogs from experiments. Dogs were not necessary for the purpose of science, and were used because they were cheap. The bill had three times passed a second reading in the house of commons. Viscount Knutsford moved the rejection of the bill. If the bill passed, no dog could be used even for a feeding experiment. At present, dogs could not be operated on at all except under license. By experiments on dogs, great progress had been made in discovering the cure of many diseases. Insulin was discovered solely by experiments on dogs. Even as regards dogs themselves, research might be beneficial, such as the one now being conducted with regard to distemper. The lord chancellor (Lord Haldane, distinguished not only as a lawyer but also as a philosopher and an educationist) said that, until a few days ago, he was chairman of the committee to which all questions on serious experiments of animals were referred. Nobody could get a license who was not recommended by very high authority. The bulk of experiments involved no pain or wounding. Experiments that did involve these had to be performed under an anesthetic, and the animal must not be kept alive afterward except in exceptional circumstances which required special permission. The view of the government was that the bill would put an end to research. The bill was rejected without a division.

Failure of the Dreyer Vaccine

A short time ago, the production of a new vaccine for tuberculosis by Georges Dreyer of Oxford was announced in The Journal. The distinctive feature was the removal of the fatty envelop of the bacilli. The discovery of this vaccine was heralded with much acclamation, and encouraging results were reported from several of the hospitals. Unfortunately, they are not confirmed by later reports from sanatoriums and hospitals in which selected cases of various types of tuberculosis have been treated. The vaccine does not produce the severe reactions that are apt to follow other preparations of its kind. Possibly larger doses may give better results. The failure, so far, recalls the disappointment that followed Koch's premature claim, in 1890, that he had discovered a cure for tuberculosis.

Condemnation of Dichotomy

If dichotomy is practiced at all in this country, it can be only to a small extent, as it would receive no countenance from any reputable member of the profession. The fact that a number of the consultants and specialists of Birmingham have recently held a meeting to consider dichotomy may be taken as proof that it is not unknown. After full discussion, these resolutions were passed unanimously: 1. It is improper for a consultant to transfer any portion of his consultation—or operation—fee to the practitioner who has called him in. The consultant who offers, or agrees to, such payment, however innocently, is open to the suspicion of paying a "commission" for his own advantage. The practitioner who accepts

or asks for it cannot maintain the position of a trusted and unbiased adviser as to the need for a consultation and the selection of a consultant. 2. No consultant or specialist shall pay to the general practitioner who is associated with him in a case any part of an operation—or consultation—or so-called "inclusive" fee, unless he informs the patient or his representatives of the services for which the payment is made, and the amount of such payment.

The Treatment of General Paralysis by Malaria

The treatment of general paralysis by inoculation of malaria has been introduced into this country. It was thought at first that the inoculated disease would be of mild type and that the blood parasites would be too scanty to infect mosquitoes. However, in some cases the induced malaria has been of a severe type. The benign tertian parasite was used, and it is thought that the severity was due partly to the original tropical source from which it was derived and partly to increased virulence from passage through many human hosts. It is hoped that a strain of parasite that will not produce severe symptoms will soon be available. But it is thought that these can be avoided in the meantime by examining daily the blood of the inoculated, so as to ascertain when it may be necessary to modify the infection by administration of quinin. Investigation by the ministry of health has shown that the common malaria-carrying mosquito of England (*Anopheles maculipennis*), after sucking blood from inoculated patients, readily becomes infected and capable of conveying malaria. Measures to prevent this infection during the period of activity of the mosquito (from May to October) are therefore enjoined by the board of control (the body appointed by the government to control the care of the insane). Inoculated patients must be kept in a mosquito-proof ward or under a mosquito curtain until microscopic investigation has shown that the blood is free from the sexual forms of the parasite, which are infective to mosquitoes—usually about three days after the beginning of quinin treatment. The malarial treatment must be confined to hospitals in which these conditions can be observed. Cases of inoculated malaria must be reported to the local health officer when the patient is discharged from the hospital, and this information will be passed on to the health officer of the district in which the patient resides. The ministry of health is prepared to arrange a short practical course in blood examination and in the care of patients inoculated with malaria for a limited number of physicians.

An Improved Method of Preparing Insulin

Working in the department of biochemistry and pharmacology of the National Institute for Medical Research, H. W. Dudley and W. W. Starling have devised a method of preparing insulin which appears to be a considerable advance. The original method of extracting with alcohol gave an average yield of 88 rabbit units of crude insulin per kilogram of pancreas; with acid alcohol, the yield was increased to 412 units. Recognizing that in acid but not in alkaline solution insulin is adsorbed by a variety of substances, it occurred to these workers to extract mixed pancreatic substance in an alkaline medium. The fear that the process would favor destruction of insulin by trypsin action was found to be groundless. They minced fresh or frozen ox pancreas in 95 per cent. spirit and added sodium bicarbonate, allowed the mixture to stand, filtered through cloth, added more alcohol, allowed it to stand for another period, filtered through paper, added glacial acetic acid, and evaporated in a vacuum in a water bath at from 40 to 45 C. The fat is removed and alcohol added to the precipitate, which is finally dried in a vacuum desiccator over sulphuric acid. One rabbit unit is usually contained in from 3 to 5 mg. of crude insulin. These workers have also devised a simplified method of purification of the crude product by precipitation with picric acid and conversion of the insulin into a soluble hydrochlorid. Ninety per cent. of the impurities are thus removed, and preparations are obtained in which one rabbit unit is contained in 0.2 mg. The term "rabbit unit" is the original Toronto one—the amount of insulin that will lower the blood sugar of a 2 kilogram rabbit from the normal 0.1 per cent. to about 0.04 per cent. and will cause hypoglycemic convulsions within four hours.

PARIS

(From Our Regular Correspondent)

March 21, 1924.

The Gabrilovitch Tuberculin

In previous letters I have mentioned the exploitation of the Gabrilovitch tuberculin (phagolysin) as "a truly curative and specific remedy" for tuberculosis (THE JOURNAL, March 3, 1923, p. 640, and Jan. 26, 1924, p. 316). Recently Dr. Kresser presented to the Société de médecine of Paris a communication on this remedy in which he claimed that he had obtained 74.2 per cent. of clinical cures. Dr. Levassort has more recently suggested that all communications on the treatment of tuberculosis be submitted hereafter, before presentation, to a special commission for investigation. It would then be possible to avoid publishing communications that awaken hope which proves unfounded.

In the meantime, Dr. Tilmant presented to the Société de médecine a number of documents that show the deceitful methods used to advertise the Gabrilovitch tuberculin. There appeared in the *Gazette des hôpitaux*, Jan. 6, 1923, an article entitled, "Is There an Efficacious and Harmless Tuberculin?" signed by Dr. G. Bernard, formerly an intern in the Maison départementale at Nanterre. The author referred to articles by Darrier (Paris), Guy Laroche, Pissavy, and others. The *Gazette des hôpitaux*, January 13, published this "correction": The statement that Pissavy had experimented with phagolysin in the Cochin Hospital has proved to be erroneous; we are informed he has never had occasion to use the product. Then, another "correction" appeared in the issue of January 20: The statement that Guy Laroche had experimented with phagolysin in the Charité Hospital has proved to be erroneous; we are informed that he has never used the product in the hospitals. Finally, a third "correction" appeared in the January 27 issue: Dr. Georges Bernard, formerly intern in the Maison départementale at Nanterre, requests us to state that he is not the author of the article which appeared, January 6, under the title, "Is There an Efficacious and Harmless Tuberculin?" The error occurred in confusing similar names. Tilmant remarks sarcastically, as for Darrier, his name resembles that of the well known dermatologist Darier, but has an additional *r*. What a strange coincidence that Darrier should have been mentioned along with the hospital physicians Guy Laroche and Pissavy. The fact is that not one of the phantom experimenters remains—not even the phantom author of the article. Does not this definitely discredit the remedy? Does not a medical society that accepts papers on this remedy as Tilmant says, become the whip of the commercial house that is promoting the product?

Honor Loans to Students

Recent legislation has created a national bureau for honor loans to needy Frenchmen who are pursuing university studies or doing research work (THE JOURNAL, Aug. 11, 1923, p. 490). The *Journal officiel* has just published the decree regulating the allocation of these loans. All persons pursuing higher courses of study are entitled to apply for a loan: students enrolled in the faculties of universities, and independent investigators, provided they secure from other organizations sufficient aid to purchase the equipment for their research

and have no other income sufficient to support them. It is desirable to reduce to a minimum the conditions that must be fulfilled to obtain an honor loan. There must be, of course, authentic information about the status of the student's family and the student himself; also a formal guarantee that the applicant is actually pursuing a course of study or research, and it is advisable to verify by an examination, as in Belgium, that the applicant is fitted to derive advantage from a loan. The loan must not serve to support students far away from intellectual centers or those who are physically unable to pursue assiduously work that is worth while. Above all, the honor loan must preserve the character of a moral obligation. It would be wrong for such an obligation to be taken lightly or to be considered negligible. Although no interest is charged, and extensions will be granted for good cause, repayment of the loan must begin within ten years, and local committees must see that repayments are made as promptly as circumstances permit. Alumni associations may be appealed to to aid in making collections.

Who Invented Motion Pictures?

The Commission du Vieux Paris, a Paris historical society, has decided to place a commemorative tablet on the building on boulevard des Capucines in which the first public exhibition of motion pictures took place. The tablet was to have borne this inscription: *"Ici, le 28 décembre 1895, le cinématographe, invention des frères Lumière, réalisa les premières projections publiques de photographie animée."* Dr. Noguès of the Marey Institute has addressed to Dr. Doléris, president of the Academy of Medicine, a protest, which states that Marey is the real inventor of the cinematograph. A distinction must be made between the word "cinematograph" and the thing itself. The word was introduced by Léon Bouly for his apparatus, which was patented, Dec. 27, 1893, under the following description: *"Appareil réversible de photographie et d'optique pour l'analyse et la synthèse des mouvements."* As for the thing itself, the honor seems to belong to Marey, who, Nov. 3, 1890, presented to the Academy of Science an article entitled "A Chronophotographic Apparatus Applicable to the Analysis of All Sorts of Movements." He showed later that it was possible to reproduce true movement by projecting successive pictures with an apparatus that he called a "chronophotographic projector."

In view of this, the president of the Academy of Medicine addressed a letter to the Commission du Vieux Paris suggesting that the tablet be modified to read, *"Ici, le 28 décembre 1895, furent réalisées par les frères Lumière les premières projections publiques de photographie animée, obtenues par la méthode de E. J. Marey."* This modification, placing the name of the inventor and the names of those who brought the invention before the public side by side, will serve the cause of truth and science.

A Life Sketch of Pélissier

Dr. Jules Regnault, professor in the Ecole de médecine navale at Toulon, has published in the review *Aesculape* a life sketch of the naval physician Dr. Léopold Henri Pélissier, a victim of the dirigible *Dixmude*.

Pélissier was born, July 15, 1883, at La Palme, department of Aude. He studied medicine first at the Ecole de médecine navale at Toulon, and later at the Ecole de santé navale and at the Faculté de médecine of Bordeaux, and received his degree of doctor of medicine in 1907. His thesis on thrombophlebitis of the jugular vein was illustrated by excellent drawings from his own pen. Pélissier was, indeed, an artist, and the ward-room of the Cuers-Pierrefeu aviation center contains many frescoes of scenes of the sea and air which he painted. While at this aviation center, he made a study of the physiology and hygiene of aviators. He attempted to discover the cause of disorders observed on long flights; also affections due to altitude, and to the vibration of airships. He made medicine chests for various types of airships, and received from the minister of the marine commendation for projects, which were taken under advisement. He spent his leisure in making dissections of wings of birds, and published *(Archives d'anatomie, d'histologie et d'embryologie)* an article, excellently illustrated, on the ligaments of the flight-feathers of birds. He was interested in paleontology and geology, and, when the question of sending the *Dixmude* over the Sahara was raised, Pélissier conceived the idea of studying the orographic features of the desert. The opportunity to apply his research to study the topography of the Sahara and, more especially, to accompany aviators who might need a physician, induced Pélissier to volunteer for the *Dixmude's* long flight. Thus his death was the result of his professional devotion and interest in science.

Honorary Titles

The council of the University of Paris has proposed to the minister of public instruction that the title of doctor *honoris causa* be conferred by the Faculté de médecine on Dr. Wright, professor in the University of London, and Dr. Ramon y Cajal, professor in the University of Madrid.

Young Navy Recruits

The report of inspection of the Mediterranean squadron was recently published by Dr. Brunet. He points out that men 17 or 18 years of age seldom have the physical strength and morale necessary for duty on board ship in active service. Navigation imposes on marines under 19 years of age such heavy duties that a large sick-list is the evident result. Almost half of the exemptions from duty on large ships are granted the youngest cadets. To remedy this situation, Brunet suggests that (1) young men under 19 be rarely employed; (2) the physician who accepts a man so young certify that the applicant is especially robust, and that the physician be held morally responsible; (3) recruiting stations be equipped with fluoroscopic apparatus so that objective evidence of the condition of the respiratory and circulatory organs may be promptly secured, and (4) young men under 19 years of age be assured, when possible, uninterrupted sleep of at least six hours.

ITALY

(From Our Regular Correspondent)

March 13, 1924.

A Monument to Army Physicians

A monument in memory of Italian army physicians who died during the World War will be erected in the cloister of the Scuola di sanità militare in Florence. The sculptor is Arrigo Minerbi. Gabriele d'Annunzio will deliver the dedicatory address.

Venereal Prophylaxis in the Italian Army

In addition to periodic visits to the troops of the line, and lectures, antivenereal prophylaxis in the Italian army is a matter of special treatment, for which special rooms have been provided in every regiment, for more than a year. The prophylaxis room has a wash bowl and urinal with running water, soap flakes, absorbent cotton, a glycerin and water solution of protargin strong, and a thymol-calomel ointment (Metchnikoff-Gauducheau formula), put up in tubes by the Instituto Chimico Farmaceutico Militare of Turin. Following external lavage, the soldier injects in the urethra a quantity of protargin strong solution and then applies Metchnikoff ointment. An especially instructed male nurse supervises the treatment, which must be recorded in the register with an entry of the time that elapsed before treatment. In winter, it is important that water for lavage be heated.

VIENNA

(From Our Regular Correspondent)

March 13, 1924.

The Economic Organization and the Hospital Physicians

As mentioned previously (THE JOURNAL, March 8, p. 808), a severe conflict occurred between the Wirtschaftliche Organisation—the economic organization of Vienna practitioners—and its members belonging to hospital staffs. After prolonged negotiations, an arrangement has been made, in which the following points are noteworthy: Private practice may not be followed by any intern in any Vienna hospital or clinic as long as he receives a salary or board and lodging from that institution. In the last six months of his internship, however, he may receive private patients, so as to build up a basis for future practice. If an intern starts private practice, it will be regarded as a six months' notice of quitting his appointment. This arrangement does not pertain to the chief of inpatient or outpatient departments, or to the honorary or visiting physicians. In clinics, only the assistants of the professor may be permitted by the latter to follow private practice without any time limit, or may be bound to refrain from it, as the chief thinks fit; but existing rights will not be violated by the arrangement. Hospital physicians will have a proportionate representation on the organization board (about 15 per cent.) and have a deciding vote in matters pertaining to hospital problems. With this peaceful understanding, the elections for a new board are being hastened so as to have a working body for the problems to be solved within the next few months. These are the new medical act, the formation of new sickness insurance societies, the codification of medical ethics and the reorganization of the medical curriculum.

Death of Leopold Rethi

Dr. L. Rethi, professor of rhinolaryngology, aged 66, died a short time ago of influenza. His name was well known, chiefly through his work on the physiology of the larynx. His more important articles on that subject numbered more than 300. He studied chiefly the distribution of nerves in the upper respiratory passages, and, lately, the production of the normal and the pathologic voice. The comparative anatomy and physiology of the mammal and the avian larynx was his specialty, but in practical laryngorhinology he was a leader. A few years ago he founded, in Vienna, the Austrian Phonetic and Experimental Society, and he took a leading part in the musical life of this city. His important books, "Diagnostics and Therapeutics of Diseases of the Larynx" and "The Diseases of the Nose, Its Accessory Cavities and the Pharynx," published many years ago, have been translated into various languages.

An Antitobacco Campaign in Austria by Physicians

In a pamphlet intended chiefly for medical men, a number of leading physicians have addressed the profession to unite in a grand effort to cut down and possibly eradicate the habit of smoking tobacco. Their opinions are given to show how deleterious and far reaching the effects of smoking have been, how nicotin promotes the development of arteriosclerosis and nerve diseases, and how great an expenditure of the national income is caused by the habit of smoking. In our country, the cost of tobacco for one day equals the total annual deficit of all our tuberculosis sanatoriums, which had to be closed for economy. It might be added that the total expenditure for the German army in 1912 was less than that country's "smoking bill." The entire profession is urged to use its influence with patients to convince them of the advantage of adopting the nonsmoking habit. Physicians are also urged to emphasize the necessity of prohibiting smoking in bedrooms, sitting rooms, waiting rooms, cafés and other public houses, where nonsmokers may be subjected to the ill effects of tobacco smoke. The pamphlet has been sent to every practicing physician in Austria by the "Economic Organization." Smoking had become extraordinarily common with us as a result of tedious hours in the trenches; it has spread also alarmingly among women. That it is not necessary, as claimed by its devotees, is shown by the numbers who stop smoking because of illness, as well as by numerous persons already won over in the short time that the campaign has been on. The fight cannot be regarded as a "fad." The possibility of a strong fight against habit has been shown by legislation in the United States against alcohol. We have learned from that country that public benefit must be considered more powerful than individual likes or dislikes.

Treatment of Tuberculous Laryngitis with Electric Light

About 16 per cent. of all deaths in Vienna are due to tuberculosis, and the relative frequency of tuberculosis of the larynx is noted in all special clinics. In a demonstration from Hajek's clinic, Dr. Wessely discussed before the medical society the results of the treatment of these lesions with electric light from the "carbon arc." The light is passed through a sheet of water to be cooled, and then allowed to fall directly on the diseased mucous membrane through a straight tube inserted in the mouth or reflected into the larynx by means of a simple metal mirror kept in place by a movable arrangement of screws. Dr. Wessely demonstrated a series of patients who had had ulcers of varying intensity, but who now are virtually cured. The duration of the treatment is several months, each sitting lasting from five to fifteen minutes two or three times a week. A slight reaction is frequent at first, but it does not interfere with the progress.

The Tuberculosis Mortality in the Last Four Years

At the meeting of the Austrian antituberculosis society in Vienna, a few days ago, Dr. Böhm, chief medical officer of the board of public health, gave a short review of the mortality rates of the principal communities of this and other countries. The figures for Vienna are as follows: In 1920, 7,464 persons died of tuberculosis, or 41 per 10,000 living. In 1921 the number was 5,265, or 28 per 10,000 living. In 1922, it went up to 5,552 (30:10,000) and in 1923 dropped to 4,630, or 24 per 10,000, the lowest mortality recorded for tuberculosis since 1867. Pulmonary tuberculosis carried off in these years, 5,660, 3,936, 4,342 and 3,624 cases respectively, or 31, 21, 23 and 19 per 10,000 living. The constant drop in tuberculosis mortality since 1920 is explained by the fact that during the war the severe cases were fatal, and only the strongest patients or those with the mildest cases survived, owing to the scarcity of food and fuel. The relative number of grave tuberculosis cases was thus diminished, when conditions started to improve. But for the next few years an increase of the mortality figures up to the prewar level was not surprising. It is therefore of great importance that efforts to combat this disease should not be allowed to diminish. Vienna, in 1923, spent twenty-one thousand million kronen for this purpose. The thirteen welfare centers have helped 14,876 patients and have found sanatorium accommodations for 5,082 patients for a period of at least twelve weeks each.

Forensic Medicine in Cases of Dubious Responsibility

Public attention has recently been directed to a series of cases of criminal proceedings in which the experts differed widely in their opinions about the responsibility of the accused. To meet the public demand, the highest court of justice has published a report which gives the method of procedure in a case in which mental disturbances of a temporary or permanent nature have to be taken into consideration. According to this report, experts have first to consider heredity. More attention must be paid to alcoholism, to

abnormal irritability and to debauchery. Organic brain lesions generally affect the mind in such a way that the accused must be regarded irresponsible and be acquitted. Severe disease may cause the judge to dismiss the case temporarily, until further development shows its nature. If a severe affection is then proved—weakmindedness, imbecility, paranoia, dementia praecox—the victim must at once be dismissed and turned over to an asylum. A psychosis, existing at the time the offense was committed, also exonerates the culprit. Austrian law does not attach much importance to hereditary influences, such as paralysis or mental disease, in one parent. Suicides in the family, and epilepsy are only adjuvants. While the latter condition does not excuse the culprit, if he commits a crime in the condition of exaltation before a seizure he is not held responsible. Chronic irresponsibility of accused person (kleptomania or pyromania) is well known to our law, but during the lucid moments they may be held responsible. With a person totally drunk, the Austrian law is unusually lenient. Even murder by a person under the influence of alcohol is punished by no more than three months at hard labor, which is evidently punishment for being drunk, not for murder. The alienist may go far back into the antecedents of the crime and the criminal, and give reasons for his opinion. But the judge may call as many experts as he sees fit to form an opinion before delivering judgment.

BERLIN

(From Our Regular Correspondent)

March 22, 1924.

The Conflict with the Berlin Health Insurance Societies

The Berlin-Brandenburg *Aerztekammer* passed at its last meeting the following resolution condemning the policy of the boards of control: "The *Aerztekammer* notes with regret the continuation, for three months or more, of the conflict between physicians and health insurance societies. This conflict was precipitated by a government order concerning treatment to be given members of health insurance societies, and the failure to settle it is due largely to the indifference of the boards of control. They exercise their authority from formal points of view, which are not consistent with the avowed purpose of health insurance. The boards of control were assured as much as two months ago that the treatment of members of health insurance societies is inadequate. The health insurance societies in themselves and with the assistance of the central insurance bureau have not been able to solve the problem. Nevertheless, the societies, wholly unmindful of the insured, have recently reduced the medical treatment given members to a still lower plane. They have refused to grant members adequate cash benefits in lieu of medical treatment, and tried to force them to be treated in overcrowded dispensaries, where proper treatment is impossible, and the contact of all kinds of patients constitutes a great menace to the health of the community. It is incomprehensible that the authorities responsible for public welfare should permit health insurance societies to deprive their members of proper medical treatment. The boards of control have thus become equally responsible with the insurance societies for the inefficiency in the treatment of the insured and the resulting menace to public health. The health insurance societies have assumed the position of a state within a state, and, owing to the indifference of the boards of control, have neglected to provide proper medical treatment for their members. The *Aerztekammer* regards it as a duty thus to inform the public."

Daylight Saving Time

The Prussian ministry of state has decided to petition the federal government to introduce daylight saving time for the summer of 1924. This action was taken for financial reasons, with an understanding of the value of the plan to public health. "The saving in light and coal by a more extensive use of daylight, according to experts, is so important that our country must not fail to embrace the opportunity. The advantages to public health are very apparent. Large numbers who are tied to offices and shops during the day will have an opportunity to enjoy the sunlight after their day's work, and those who have gardens will have a chance to work an extra hour in the evening." The ministry of state believes that changes in transportation, especially a later schedule for milk trains, can be arranged and thus obviate the inconveniences of which farmers in some parts of the country complain.

Closing of Tuberculosis Sanatoriums

An inquiry by the Executive Committee for Combating Tuberculosis has revealed that, last year, mainly for financial reasons, there had to be closed not less than thirty-six sanatoriums for adults, with 3,577 beds; seven children's hospitals, with 940 beds; two homes for convalescents, with 242 beds, and three welfare institutions, with 251 beds. A number of tuberculosis sanatoriums were able with difficulty to keep afloat, but were compelled to reduce their activities.

The Municipal Roentgen Institute

The Werner-Siemens Institute for Roentgen Research is to be opened, March 22. The city of Berlin, in collaboration with the firm of Siemens & Halske, has established here a large teaching and research institute with modern equipment. The city will pay the current expenses, and Siemens & Halske will furnish, at their expense, the apparatus and instruments. A joint board of control appointed by the founders will administer the institute. It will serve, primarily, for practical, clinical research work, and, secondarily, the whole field of roentgenology. Dr. Frik, formerly assistant at the first university medical clinic in Berlin, has been chosen director.

Night Work in Bakeries

The question of again permitting night work in bakeries is interesting the public. It appears to be only a question of time when the prohibition against night baking will be removed. Prof. R. O. Neumann of Hamburg published recently an article based mainly on his research, "Breads and Bread and Flour Substitutes Used and Advocated During the War, 1914-1918." Neumann and others established that a good share of the complaints about so-called war bread was due to defects that resulted from interrupting the bread-making process owing to the prohibition against night work. An investigation showed that, if the dough is allowed to stand too long without being worked, it gets too sour, and the quality of the bread is impaired. Other defects could be explained similarly. Professor Neumann summed up the results of his study in these words: "From a hygienic standpoint, it should be seen to that such a general article of diet as bread should receive the attention it deserves, even if a certain class of workmen should be inconvenienced thereby."

Seventieth Birthday of Professor Leo

Professor Leo, of the chair of pharmacology at the University of Bonn, will be 70 years of age March 27. He became instructor in internal medicine at the University of Berlin, under Senator, in 1887, and at the same time worked in the laboratories of Zuntz, Kossel and Robert Koch. He was called to the University of Bonn in 1890, where, as associate professor, he took over the direction of the Medizinische Poliklinik, succeeding Finkler. He retained this position until 1908. Up to this time, his studies dealt mainly with physiologic chemistry, problems of metabolism, and diseases of the digestive tract. After the retirement of C. Binz in 1908, Leo was appointed to the chair of pharmacology. He has written numerous articles on lime, silicic acid, lecithin, camphor and its derivatives and oral antiseptics.

Marriages

ARDEN CLINE HORNBECK, Marlin, Texas, to Miss Blanche Rudolph Kunz of Chicago, at Waco, Texas, March 23.

TALLYRAND DESSIX MYERS, Pasadena, Calif., to Mrs. Helen MacQueen Wright of San Francisco, March 20.

SHADE D. NEELY, Muskogee, Okla., to Miss Leila Roberts Hampton of Tulsa, January 6.

HENRY S. BROWNE, Tulsa, Okla., to Miss Dorothy A. Malone of St. Louis, recently.

ROY PERRY ALLERTON, Tilden, Neb., to Miss Eileen E. Stewart of Elgin, Ill., April 5.

Deaths

Malcolm Dills, Carlisle, Ky.; Medical College of Ohio, Cincinnati, 1871; member of the Kentucky State Medical Association; formerly on the staff of the Louisville City Hospital; delegate to the World's Congress of Physicians in Paris, France, in 1900; aged 74; died, March 27, of senility.

Frederick G. Hewett, Independence, Ore.; Williamette University Medical Department, Salem, 1907; member of the Oregon State Medical Society; served in the M. C., U. S. Army, during the World War; aged 47; died, March 16, of cerebral embolism, following pneumonia.

Alvin Brainard Poore, Cedar Rapids, Iowa; Medical Department of the University of the City of New York, 1879; formerly on the staff of St. Luke's Hospital; aged 72; died, in March, at Canadaigua, N. Y., of injuries received in an automobile accident.

Charles Wesley Caton ⊕ Concordia, Kan.; Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1898; on the staffs of St. Joseph's Hospital, Concordia, and St. Anthony's Hospital, Hays; aged 58; died, March 28.

Fitz Randolph Moore, Butler, Pa.; Johns Hopkins University Medical Department, Baltimore, 1920; on the staff of the Charity Hospital, Shreveport, La.; aged 33; died, March 29, of septicemia, contracted while operating on a patient.

James M. Jackson ⊕ Miami, Fla.; Bellevue Hospital Medical College, New York, 1887; president of the Dade County Medical Society, and the Florida State Board of Medical Examiners; aged 58; died, April 2, following a long illness.

John Ferguson McArthur, Wilburton, Okla.; Kansas City (Mo.) Medical College, 1893; member of the Oklahoma State Medical Association; secretary of the Latimer County Medical Society; county health officer; aged 65; died, March 8.

Colin Gilchrist, Wenatchee, Wash.; Detroit (Mich.) College of Medicine and Surgery, 1888; formerly county coroner and president of the board of education; aged 63; died, March 20, of pneumonia, following an appendectomy.

Charles T. Steck, Berwick, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1878; member of the Medical Society of the State of Pennsylvania; also a druggist; aged 70; died suddenly in his office, March 29.

Frank Irving Disbrow ⊕ Bradley Beach, N. J.; Medical Department of the University of the City of New York, 1880; member of the Medical Society of the State of New York; aged 65; died suddenly, March 14.

John Joseph Broderick ⊕ Jersey City, N. J.; Bellevue Hospital Medical College, New York, 1890; Spanish-American and World War veteran; for ten years police surgeon; aged 55; died, March 25, of heart disease.

James Henry Finnessy, Rochester, N. Y.; Baltimore (Md.) University School of Medicine, 1890; member of the Medical Society of the State of New York; aged 59; was killed, March 26, in an automobile accident.

H. Volney Nickell, West Liberty, Ky.; Kentucky School of Medicine, Louisville, 1898; member of the Kentucky State Medical Association; aged 47; died, March 16, of arteriosclerosis and cerebral hemorrhage.

Laura J. Dice, York, Pa.; Woman's Medical College of Pennsylvania, Philadelphia, 1890; member of the Medical Society of the State of Pennsylvania; aged 72; died, March 25, of cerebral hemorrhage.

Theodore Christian Lund, Hutchinson, Minn.; University of Minnesota Medical School, Minneapolis, 1919; member of the Minnesota State Medical Association; aged 33; died, February 25, of pneumonia.

Edward Alcorn, Hustonville, Ky.; University of Louisville (Ky.) Medical Department, 1867; for thirty-five years president of the National Bank of Hustonville; aged 80; died, March 28, of senility.

Charles Alan Day, Belmont, Ohio; Ohio Medical University, Columbus, 1898; member of the Ohio State Medical Association; aged 51; died, February 18, at Barnesville, following a long illness.

Carl A. Schulze, Columbus, Ohio; Hahnemann Medical College and Hospital of Philadelphia, 1885; formerly police surgeon; at one time a clergyman; aged 71; died, March 25, of bronchopneumonia.

Edwin S. Haas, Claflin, Kan.; University Medical College of Kansas City, Mo., 1900; member of the Kansas Medical Society; aged 49; died, March 10, of an overdose of phenol, taken accidentally.

Olaf K. Eggen ⊕ Minneapolis; Jefferson Medical College of Philadelphia, 1909; aged 45; died, March 26, at the Minneapolis General Hospital, of injuries received when struck by an automobile.

Louis William Wittenberg, New York; Long Island College Hospital, Brooklyn, 1909; member of the Medical Society of the State of New York; aged 43; died, March 30, of carcinoma.

Fletcher Asbury Butler ⊕ San Diego, Calif.; Louisville (Ky.) Medical College, 1879; College of Physicians and Surgeons, Keokuk, Iowa, 1882; aged 70; died, March 21, of senility.

Charles Lemon McKown, Niles, Calif.; University of California Medical School, San Francisco, 1903; member of the board of education; aged 44; died, March 21, of pneumonia.

Harlan Harvey Hart, Bloomington, Ill.; Northwestern University Medical School, Chicago, 1921; aged 29; on the staff of the Brokaw Hospital, where he died, April 2, of pneumonia.

Bader S. Hunt ⊕ Winchester, Ind.; Rush Medical College, Chicago, 1894; county coroner; formerly on the staff of the Read Memorial Hospital, Richmond; aged 55; died, March 23.

Charles Milton Leighton ⊕ Portland, Maine; Medical School of Maine, Portland, 1897; on the staff of the Maine General Hospital; aged 54; died, March 25, of carcinoma.

Hanley Clay Creveling, St. Louis; Missouri Medical College, St. Louis, 1895; member of the Missouri State Medical Association; aged 50; died, March 27, of pneumonia.

John William Trabert, Lebanon, Pa.; Jefferson Medical College of Philadelphia, 1870; formerly on the staff of the Good Samaritan Hospital; aged 78; died, March 29.

Joseph Thomas Bogan Berry ⊕ Bolton, Miss.; Medical Department University of Louisiana, New Orleans, 1883; aged 64; died, March 16, of cirrhosis of the liver.

Harley L. Atwood, Collins Center, N. Y.; University of Buffalo Department of Medicine, 1872; formerly city health officer; aged 76; died, March 17, of senility.

Manton E. Anderson, Buffalo; Medical Department of the University of the City of New York, 1880; aged 78; died, January 3, of hypertrophy of the prostate.

Elspeth M. Conner ⊕ Chicago; Harvey Medical College, Chicago, 1898; member of the Chicago Pediatric Society; aged 59; died, April 8, of heart disease.

Samuel Howell Gardner ⊕ Sharpsburg, Md.; University of Virginia Department of Medicine, Charlottesville, 1889; aged 60; died, March 24, of heart disease.

Laurens Toomes Postell, Plaquemine, La.; Medical Department University of Louisiana, New Orleans, 1882; aged 66; died, March 19, of heart disease.

Charles Lyman Bohannan, Galloway, Ohio; Bennett College of Eclectic Medicine and Surgery, Chicago, 1889; aged 70; died, February 25, of senility.

Washington D. Watson, Tennyson, Ind.; Kentucky School of Medicine, Louisville, 1888; Civil War veteran; aged 78; died, March 19, of senility.

Curtis Brown, Marion, Ill.; Missouri Medical College, St. Louis, 1874; member of the Illinois State Medical Society; aged 70; died, March 25.

Ernest Leighton Warren, West Boylston, Mass.; Long Island College Hospital, Brooklyn, 1884; aged 61; died, March 17, of tuberculosis.

Marion Wilborne Strickland, Pelzer, S. C.; Tennessee Medical College, Knoxville, 1897; aged 54; died, March 20, at a hospital in Greenville.

Daniel S. Hartinger, Middleport, Ohio; Medical College of Ohio, Cincinnati, 1877; aged 77; died, March 24, of heart disease and pneumonia.

Harrison W. Sigworth, Anamosa, Iowa; Rush Medical College, Chicago, 1863; Civil War veteran; aged 87; died, March 29, of senility.

Thomas Monie ✠ Archbald, Pa.; Medico-Chirurgical College of Philadelphia, 1899; aged 57; died, February 10, of bronchopneumonia.

Simon Fillmore Stuckey, Mokelumme Hill, Calif.; Cooper Medical College, San Francisco, 1898; aged 68; died, March 20, of pneumonia.

Albert B. Culley, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1906; aged 46; died, March 31, of pneumonia.

Joseph Trumbo Hering, Baltimore; University of Maryland School of Medicine, Baltimore, 1885; died suddenly, in his office, March 29.

Joseph Franklin Rhem, New Bern, N. C.; Bellevue Hospital Medical College, New York, 1894; aged 52; died, March 21, of heart disease.

Oscar M. Chapman, Chesnee, S. C.; Lincoln Memorial University Medical Department, Knoxville, Tenn., 1911; aged 39; died, March 20.

Samuel Gilman Glover ✠ Greenville, S. C.; University of Maryland School of Medicine, Baltimore, 1910; aged 41; died, March 22.

James Averill McGlenn, Bridgeport, Ohio; Jefferson Medical College of Philadelphia, 1885; aged 61; died, February 1, of pneumonia.

Felix P. Vanier, St. Jerome, Que., Canada; Victoria University Medical Department, Toronto, Ont., 1882; aged 65; died recently.

Joseph Abram Cox, Wheeling, W. Va.; Baltimore (Md.) Medical College, 1896; aged 65; died suddenly, March 31, of heart disease.

Asa L. Wessels, Baltimore; Atlantic Medical College, Baltimore, 1898; aged 46; was found dead in bed, April 4, of heart disease.

Jacob Ludvig Hoffmann ✠ Henning, Minn.; University of Christiania, Norway, 1894; aged 57; died, February 6, in Minneapolis.

Amos J. Landis, Chico, Calif.; Medical College of Indiana, Indianapolis, 1880; aged 75; died, March 23, of cerebral hemorrhage.

James W. Wellons, Barnesville, Ohio; Medical College of Ohio, Cincinnati, 1884; aged 61; died, February 27, of carcinoma.

George W. Daily, Whiteland, Ind. (licensed, Indiana, 1903); Civil War veteran; aged 88; died, March 14, of pneumonia.

Arthur L. Fisher, Wheatland, Mo.; Eclectic Medical Institute, Cincinnati, 1882; aged 75; died, February 25, of senility.

Jay E. Fox, Columbus, Ohio (licensed, Ohio, 1896); aged 90; died, February 14, at St. Francis' Hospital, of pneumonia.

Baltzer L. Gordon, Frankfort, Ind.; Eclectic Medical Institute, Cincinnati, 1891; aged 73; died, March 22, of pneumonia.

Camillus E. Richards, Milwaukee; Chicago (Ill.) Medical College, 1876; aged 69; died, April 3, of cerebral hemorrhage.

Andrew J. Brooks, Marshfield, Mo.; Missouri Medical College, St. Louis, 1878; also a druggist; aged 67; died, March 26.

Alfred Buford Greene, Cartersville, Ga.; Atlanta College of Physicians and Surgeons, 1900; aged 54; died, March 22.

Frank Manly Stewart, Sciotoville, Ohio; Columbus Medical College, 1883; aged 67; died, March 20, of pneumonia.

Frank Le Roy Nape, Canton, Ohio; Cleveland-Pulte Medical College, 1907; aged 44; died, March 5, of pneumonia.

Orville Ward Owen, Detroit; Detroit Medical College, 1881; aged 70; died, March 31, of cerebral hemorrhage.

Roy O. Campbell, College Corner, Ohio; Eclectic Medical Institute, Cincinnati, 1894; aged 54; died, March 29.

Henry J. Miller, Philadelphia; College of Physicians and Surgeons, Baltimore, 1883; aged 69; died, March 20.

William Edward Barth, Newburgh, N. Y.; Albany Medical College, 1908; aged 36; died, March 13.

George Orville Jones, Atlanta, Ga.; Atlanta Medical College, 1891; aged 54; died, March 19.

Correspondence

GASTROPEXY: ITS RESULTS AND INDICATIONS

To the Editor:—In 1912, in the Section on Surgery, I read a paper on "Gastrocoloptosis: Its Pathologic Significance and Its Surgical Treatment" (The Journal, Aug. 3, 1912, p. 334). Having described the symptoms by the "virginal" and the "maternal" types of gastrocoloptosis, I drew attention to the fact that the majority of these cases did not reach the surgeon, because medical men, confounding cause with effect, enroll them under hysteria and neurasthenia, because they consider the gastric and intestinal symptoms to be the outcome of a nervous degenerative disposition; while, in reality, all the nervous symptoms are a result of ptosis and constipation. These patients walk in vain from physician to physician, from treatment to treatment, without finding relief. Small wonder that they become more and more nervous and finally give one the impression of being, above all, neuropathic individuals.

As the result of an extensive personal experience, I realize that most of these patients can be helped sufficiently by a bandage in connection with dietetic and physical treatment; but in a considerable minority this treatment has had no effect at all. To this minority, gastropexy with the author's method, first published in 1897, has given complete cure in 63.2 per cent., great improvement in 12.8 per cent., considerable improvement in 7 per cent, and slight or no improvement in 12.8 per cent.; 4.2 per cent. of the patients died. The total number of gastropexies performed by the author and other Scandinavian surgeons with his method was then 253. I finished my article with these words: "If physicians, the world over, could have their eyes opened to the right diagnosis and treatment of these symptoms, an extraordinarily large number of suffering, disabled persons might regain health and strength by a bandage-treatment or by gastropexy, and the physicians would be relieved of the most ungrateful and wearisome patients."

My opinions about gastrocoloptosis and its proper treatment have slowly but steadily won adherents, and in the last years the number of communications about successful gastropexy has been rapidly increasing, not only from American and French surgeons (Pauchet), but especially from Germany, formerly the center of the opposition to my ideas on gastroptosis. Germany we owe the scheme of diagnosis in stomach diseases that ruled the world for forty years, based on test meals. If Ewald's and Bourget's test meal unveiled disorders in the chemical and motor function of the stomach, the diagnosis of an organic disease was made; but when the test meals by the same symptoms, such as cardialgia, constipation and vomiting, gave negative results, then it was a nervous stomach disease, a functional disease; i. e., hysteria.

Little by little the postmortem examinations and operative findings showed that nervous stomach disease was nonexistent. Some of the conditions have been unveiled as gallstones, many as duodenal ulcer, most as gastrocoloptosis. Reports of 1,300 gastropexies have been published, with 2 per cent. deaths, 9 per cent. not improved, 14 per cent. much improved, and 75 per cent. cured. My astonishment may be imagined, therefore at reading the paper of Harris and Chapman on "A Clinical and Roentgenographic Study of Gastroptosis: Observations in One Thousand Gastro-Intestinal Patients" (The Journal, Nov. 25, 1922, p. 1832), with the discussion, emphasizing the former incorrect theories about enteroptosis and banishing the surgical treatment of gastrocoloptosis. The character of the conclusions is in marked contrast to the looseness of the argument.

With regard to the etiology, Harris and Chapman say: "Gastroptosis is a condition, not a disease. It is so frequent that it can hardly be called an anomaly . . . nearly always of hereditary origin."

As to the frequency, they found, in sharp contrast to all other statistics, 55.1 per cent. of gastroptoses (226 males and 325 females). No wonder: first, because their material consisted not of normal persons but of 1,000 gastro-intestinal patients. Their figures therefore indicate only the incidence of gastroptosis in stomach diseases, not the percentage in normal persons. Second, because they designate a stomach as gastroptotic when "the lower border was more than 2 inches below the umbilicus." Everybody who has had experience in the diagnosis of gastroptosis knows that the position of the lower border is of no significance, because, by simply dilating, the stomach can reach the bottom of the pelvis. The question is, Where is the lesser curvature in the standing position? We speak of gastroptosis when the lesser curvature, i. e., the upper border of the stomach, is below the umbilicus. It seems, therefore, doubtful, whether 55.1 per cent. of gastroptosis is the correct figure.

That "gastroptosis nearly always is of hereditary origin" is quite wrong. As John Bryant stated in the discussion, gastroptosis is never found in a new-born child; "it is a wholly acquired condition." Quite another thing is the fact that persons of the asthenic, degenerative type with thin, relaxable and flaccid tissues easily acquire enteroptosis by the pressure of corset lacing, strings and tightly buckled belts.

About the symptoms, Harris and Chapman say: "Gastroptosis is not a disease entity, and therefore is not responsible for the symptoms usually described as resulting from or associated with that condition." Quite wrong: The gastroptosis is "responsible" for that typical syndrome of symptoms which I first described in 1898, and which now is known and recognized all over the world. The evidence of this is that the symptoms disappear when the gastro-enteroptosis is cured, when the intestines are kept in normal position by bandaging, medical treatment or surgical treatment, i. e., a fattening diet or gastrocolopexy.

Medical treatment and bandaging are sufficient in the majority of cases, but an important minority of grave cases remains in which these treatments are of no effect, and here gastropexy enters as a most valuable treatment, which alone can save many lives and cure thousands of wretched sufferers.

About gastropexy, the authors remark that operations are never indicated, and continue: "The operation of fixation of the stomach for gastroptosis is mentioned only to be condemned as irrational, meddlesome surgery." This offense against the large number of prominent surgeons, the world over, who have reported more than a thousand successful gastropexies would be worth only a smile if the authors, in default of proof, did not try to support their postulates by the names of a number of prominent surgeons and gastroenterologists to whom they have sent questionnaires "asking their opinion of the merits of gastropexy," with this result: "Replies were received from all but two, and without exception they condemned the operation. Among the surgeons who consider gastropexy an unjustifiable operation may be mentioned Drs. J. M. T. Finney, W. J. Mayo, Joel E. Goldthwait, Stuart McGuire, George E. Brewer, W. D. Haggard, Hugh Cabot, H. A. Royster, Charles A. L. Reed, W. W. Crawford, James E. Thompson and Louis Frank." I wonder that such men really should "condemn" an operation that has saved or cured so many patients, and I may deplore that Harris and Chapman do not supply the arguments and the experience on which the surgeons mentioned base their condemnation of gastropexy. In a footnote they promised to publish the replies in another article. As the surgeons named, so far I know, never have published their experience and results of gastropexy, I should like to know the number of patients operated on and the method used.

THORKILD ROVSING, M.D., Copenhagen, Denmark.
Professor of Clinical Surgery,
University of Copenhagen.

L. DUNCAN BULKLEY AND "CANCER"

To the Editor:—As the champion of scientific and ethical medical and pharmaceutic procedures, it impresses me that you should be as willing to brand with its true name a source of deception within our ranks as to prosecute one from without. I address you concerning the new journal edited by Dr. L. Duncan Bulkley of New York, and christened, "Cancer." Any one reading current literature knows of the peculiar belief of this once eminent dermatologist that cancer is a medical disease and can be best treated by dietary and medicinal measures, eschewing surgery and radiotherapy.

It would be bad enough did he alone practice this delusion, but it is appalling when one considers that Dr. Bulkley is going about the country lecturing to medical societies and the laity on his pet delusion, and now comes this journal from his pen.

That many uninformed physicians will be induced—have been induced—by his remarks to adhere to his doctrines to the death and suffering of numerous pitiable sufferers is apparent to all.

One trip to the medical cancer clinic, conducted at the New York Skin and Cancer Hospital by Dr. Bulkley, such as your correspondent made, observing the haggard, emaciated, living-dead, cancer wrecks being assumedly wonderfully improved or cured by this Bulkley diet and medication will convince any physician.

Cannot this "ism" be branded with its true label? I myself know of two needless deaths because of this work.

ALBERT G. HULETT, M.D., East Orange, N. J.

EGG ALBUMIN AS CULTURE MEDIUM

To the Editor:—I have on several occasions used the albuminous portion of a hard boiled egg as an emergency culture medium. As none of the laboratory men to whom I have mentioned it had ever heard of its use, I decided to report it. I prepare the egg by boiling for five minutes; then I drop it in cold water for two or three minutes, split the egg, shell and all, lengthwise, remove the yolk from each half and make the culture on the concave surface, and then put the two halves together and wrap them up ready to send to the laboratory. The culture will keep moist and remain warm for a considerable time.

I first used this in a case of suspected diphtheria that was 30 miles from the nearest prepared culture tube, and the report came back so good that I have used it several times since with the best of success.

W. W. GOODRICH, M.D., San Joaquin, Calif.

[NOTE.—Dorsett recommended an egg medium for growing the tubercle bacillus many years ago. He broke up the whole egg, however, stirred it up well, diluted it with water, slanted it in sterile tubes, and then coagulated and sterilized it at 70 C. Egg albumin has also been used alone (without the yolk) for cultivating the lepra bacillus. It is poured into sterile Petri dishes, then sterilized, and coagulated for three hours at 70 C.—EDS.]

Duties of Public Health Worker.—The public health worker has the task of organizing public opinion and of securing responsive results in the executive and legislative branches of the government.—R. G. Paterson: *Hosp. Soc. Serv.* **9**:20 (Jan.) 1924.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PARATHYROID

To the Editor:—Will you kindly let me know the report of the benefits or otherwise of giving Parathyroid Comp. in case of chronic leg ulcers? I have received various literature from Parke, Davis & Co. and Harrower advising the use of these tablets, but feel that I should like to have the opinion of the American Medical Association before trying them.

S. N. J., Mass.

To the Editor:—Parathyroid substance seems to supply the demand in a variety of usages. . . . I am seeking information governing its proper rôle in body metabolism. Parke, Davis & Co. advertise parathyroid as a suitable remedy in hyperirritability of the nervous system, valuable in a distinctive number of female conditions, resulting in cramps and convulsive seizures of all sorts, eclampsia included. . . .

B. F., Va.

ANSWER.—The administration of parathyroid has been reported as of value in the treatment of a number of cases of tetany following the operative removal or the injury of the parathyroid gland. It has prevented the attacks of tetany and of infantile tetany, and seems, at times, to have prolonged life or to have saved it while the injured glands regained their functions. It has been stated to be of value in some cases of gastric tetany, although in other cases the results were negative.

Parathyroid has been used by some one or another at some time (and claimed to be of value) for conditions such as varicose ulcers, gastric, duodenal and cervical ulcers, tuberculosis, sinus of the hip, paralysis agitans, eclampsia and so forth. But that such disorders are regularly and favorably affected by parathyroid treatment is a conclusion unsupported by controlled clinical evidence. Parathyroid, Parke, Davis & Co., has not been accepted by the Council on Pharmacy and Chemistry for New and Nonofficial Remedies. No product of the firm of Henry R. Harrower has been accepted for New and Nonofficial Remedies.

CLIMATE OF RIO DE JANEIRO

To the Editor:—In looking up Rio de Janeiro in the New International Encyclopedia, I note the statement that, owing to heat and humidity, Rio is not a healthful place in which to live. What is your opinion on this?

PERRY E. DUNCAN, St. Louis.

ANSWER.—While Rio de Janeiro is in the torrid zone and therefore subject during a large part of the year to extremes of heat and humidity, it is considered one of the most pleasant cities within that region. The dry season extends from May to November, and the wet season from December to April. In general, the climate of Rio is similar to that prevailing in Tennessee and Kentucky. The death rate is high, but this is largely due to the lack of sanitation among the lower classes, mostly colored. While there are some portions of the city rather insanitary, the foreign colony maintains quite high standards in the residential section. In short, Rio de Janeiro is in the torrid zone and therefore subject to its disadvantages; but, compared with cities under similar conditions, it cannot be classed as unhealthful. It is rather common for well-to-do people to spend the hot season in the mountains.

COLON BACILLI IN URINE

To the Editor:—So many laboratories find colon bacilli in apparently normal urine that I should like to see the subject discussed.

E. W. BROOKS, M.D., Farmland, Ind.

ANSWER.—Colon bacilli are, it is true, frequently found in the urine, and may or may not be of much significance. It is perfectly possible to find such bacteria in urine that does not show anything of an abnormal nature, such as albumin, pus or blood. A few of these organisms may find their way into the urine, by means of an ascending contamination. This is, perhaps, more frequently due to uncleanliness than to any other factor. There may be no evidence of untoward action of these colon bacilli, provided the resistance of the bladder or urethra is normal; but if there is some irritation of these parts from other sources, the colon bacilli may develop to a great extent and exert their well known infective properties. The colon bacillus, being a normal habitant of the intestinal tract, does not under ordinary conditions exert any action of a pathologic nature; but, if there is some irritative, erosive or markedly inflammatory disturbance in the intestinal tract, these organisms may find their way into the blood stream and, later, localize in the kidney, for instance, producing a pyelitis. Further, it is perfectly possible for the infection to be of an ascending nature, the involvement being primarily in the bladder, as in cases of colon cystitis, without, necessarily, any kidney symptoms. The colon bacillus, in its normal habitat, is not a pus-producing organism; but when it localizes outside the intestinal tract, it has a tendency to produce infections at various points wherein it may be localized. A few colon bacilli in the urine do not, necessarily, have any significance; but, sooner or later, there may arise an infection which is associated with pus cells and, possibly, blood cells. The significance of colon bacilli in the urine, then, would depend on other associated findings, quite as much as on the finding of a few colon bacilli.

MERCURY POISONING AND ABORTION

To the Editor:—In discussing paternal causes for abortion, De Lee says, "Men workers in lead, phosphorus, mercury, etc., are not seldom sterile." I have a dentist's wife as a patient who has had seven abortions varying in time from six weeks to six and a half months. The Wassermann test is negative. This couple is very desirous of having children, and the woman is now 40 years of age. Any comment will be appreciated. Would the husband's working with mercury have any bearing on the case?

M.D., Wisconsin.

ANSWER.—Phosphorus, lead, mercury and other metals may at times provoke abortions, but only when organic weakness is present or systemic saturation is near; hence, in the case offered for consideration, the mercury in the small amount used by a dentist is probably innocent. Syphilis also should be dismissed as a factor, since the Wassermann reaction was negative on both sides, even though 10 per cent. do not register. In this case, too, we cannot admit either a true impotence or a sterility, for the woman can and does conceive. This leaves us on the male side with a hypothetic condition of inherent sperm weakness which could be clearly determined only by repeated microscopic examinations, since the vitality of the organism varies greatly at different times and seasons. Sperm weakness might be reasonably suspected in the early abortions; but, when the event does not occur for several months, any devitalization of the sperm should be excluded.

Ovular factors are obscure in origin and difficult to diagnose. It is known, however, that hemorrhages into the chorion, imperfect vascularization of the amnion, and inflammation of the decidua are potent influences in destroying embryonic life. Circulatory disturbances from heart lesions may also produce hemorrhages into or behind the decidua.

On the maternal side, some of the less obvious factors are the jar, worry and anxiety of automobile riding and driving with the resultant neurasthenia. Psychic disturbances, fright and excessive venery, especially at the menstrual epoch, are also important. Mechanically prominent are uterine displacements and metritis or endometritis of hyperplastic character. These conditions prevent the access of nourishment to the embryo while the thick, dense tissues do not respond to the needs of the growing egg.

COCAIN SPRAY—HYPERESTHETIC RHINITIS

To the Editor:—A patient suffering from what appears to be hyperesthetic rhinitis has recently come under my observation. About a year ago a specialist gave him the following prescription to be used as a nasal spray: epinephrin solution, one-half fluidram (2 c.c.); solution of cocain, 0.25 per cent., 3 fluidounces (11 c.c.). This is the only spray he has ever used that has given him much relief, and during attacks he uses from 4 to 6 ounces of it a week. His attacks last from several days to six or seven weeks, and from September until May there are few weeks during which he is entirely free from an attack. This means that he uses a large quantity of the spray. Is this safe? Vaccine treatment has been unsuccessful. Protein sensitization tests are negative. A submucous resection has been performed.

G. T., M.D., Pine Bluff, Ark.

ANSWER.—It is a dangerous practice to allow any patient to use even a dilute solution of cocain for any length of time in the nose. The tendency to the formation of the cocain habit is great, and is to be avoided. The use of the epinephrin chlorid and a 1 per cent. procain solution, with physiologic sodium chlorid solution often gives considerable relief; or the use of an oily solution in which about 0.1 gm. of menthol to 30 c.c. of liquid petrolatum is employed frequently gives as much relief as will the cocain, and will be entirely devoid of all serious consequences. No patient should receive prescriptions for cocain solutions to be used by himself. Often the use of calcium chlorid or calcium lactate in

about 0.5 gm. doses three or four times a day helps materially in diminishing the symptoms accompanying a hyperesthetic rhinitis. At times a hyperplastic ethmoiditis is present, which accounts for many of the symptoms; and while that operation should be used only as a last resort, there are cases in which the opening of the anterior ethmoid cells or possibly also the posterior ones is indicated when all other measures have failed. At times, the application of trichloracetic acid in the middle meatuses after cocainization of the mucosa gives relief from symptoms for a considerable period.

SEWAGE DISPOSAL IN PRIMITIVE COMMUNITY

To the Editor:—I am a medical missionary in Africa. In introducing civilization into a primitive community, all sorts of problems arise. In the beginning, many things are apt to go on in the same primitive way as for generations past. But the question of sanitary arrangements is bound to arise soon. This is a sparsely settled region, with country conditions, there being no towns or cities, but at our mission stations from several hundred to a thousand pupils gather daily and several hundred reside there most of the time. It is a hilly country, the ridges being separated by valleys with flowing streams between. The soil is clay (often red) mixed with sand, forming a clay loam to sandy soil, with no lime, or very little. Under these circumstances, what would you think of the "deep-pit" system of privy (say from 10 to 20 feet deep with a ventilating shaft reaching above the roof)? If you consider it objectionable, a brief statement of the objections will be much appreciated. Would a well situated from 100 to 150 yards from such a privy (1) on a level with or (2) from 75 to 100 feet lower than the privy be liable to contamination, in case it is used (1) by a family, or (2) by a school of from 100 to 1,000? Can you suggest a better system?

W. L. THOMPSON, M.D., South Rhodesia, Africa.

ANSWER.—The deep pit privy is recommended by such authorities on military hygiene as Havard, provided it is located so as not to contaminate the water supply. Havard recommends a pit 7 or 8 feet deep and 20 feet long for a company of 128 men. A well on a level with the privy would be subject to contamination, and from 75 to 100 feet lower would be undesirably located. The possibility and extent of contamination would depend on local conditions. From a hygienic standpoint the only types of privies that should be used are those in which the contents are received in water tight buckets or compartments. The best method is some form of septic tank with proper subsoil drainage.

LOCAL ANESTHESIA IN TONSILLECTOMY

To the Editor:—The article on local anesthetics (THE JOURNAL, March 15) greatly interests me. 1. What is the best combination used for tonsillectomies, in detail? 2. What is best for the eye to remove dirt, etc.? I have been using 1 per cent. procain, from one-fourth to three-fourths ounce, with 4 minims of 1:1,000 epinephrin for tonsils. This is much less than a number of nose and throat men use here. Is this safe? Is 4 minims of 2 per cent. cocain safe to use in the eye?

W. ROSS EATON, M.D., Oregon City, Ore.

ANSWER.—1. It is best never to use any solution of cocain, no matter how dilute, under the mucous membrane of the nose or throat. If cocain is to be used at all, a small amount may be applied on the mucosa. Five-tenths or 1 per cent. of procain either with or without the addition of from 4 to 6 drops of 1:1,000 epinephrin solution to 15 c.c. of the procain solution is injected submucously for anesthesia in tonsillectomy. Rarely are any unpleasant or serious symptoms noted when it is thus employed.

2. When removing dirt from the eye, washing the conjunctiva with a 4 per cent. boric acid solution or physiologic sodium chlorid solution is good. Cocain has a very drying effect on the cornea, and therefore should be used as little as is necessary; 0.25 c.c. of a 2 per cent. cocain solution should not cause any injury to the eye.

VARIATIONS IN SYSTOLIC BLOOD PRESSURE

To the Editor:—What is the clinical factor in systolic blood pressure where at reading there is, say, 20 points between high and low reading? High 160 and low 140. There was steady increase and steady fall in heart force.

THOMAS W. MORGAN, M.D., Virden, Ill.

ANSWER.—A pulse pressure of 20, as is indicated by our correspondent, may be the result of a drop in systolic pressure, rarely an increase in diastolic pressure, or even both factors may be at work. A low pulse indicates a diminution in the driving power of the heart and is significant of a weakening myocardium. A gradually failing pressure accompanied by signs of venous stasis is evidence of a dilating heart.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 13-14. Sec., Dr. J. W. Walker, Fayetteville.

GEORGIA: Atlanta and Augusta, June 4-6, 1924. Sec., Dr. C. T. Nolan, Marietta.

MASSACHUSETTS: Boston, May 13-15. Sec., Dr. Charles E. Prior, 144 State House, Boston.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee, Carson City.

OHIO: Columbus, June 3-6, 1924. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.

WYOMING: Casper, June 5-11, 1924. Sec., Dr. J. D. Shingle, Citizens Bank Bldg., Cheyenne.

A MODERN MEDICAL SCHOOL LIBRARY

DONALD B. GILCHRIST, B.L.S.
Librarian, University of Rochester
ROCHESTER, N. Y.

Many of our universities and colleges have been subjecting themselves recently to a most critical self-examination, and they have been aided and abetted in this worthy if not agreeable task by more pungent, though not always more intelligent, criticism from without. There has been a diligent stock taking, not only of the methods, but also of the aims, of education. Our institutions are growing in size and in numbers. The rapid progress of science has multiplied many times the possible number of subjects to be pursued and the extent to which each may be investigated profitably.

Medical science and medical education have made great progress in the United States during the last twenty-five years. The goal, however, is not yet attained, and there will undoubtedly continue to be a broadening of scope and a shifting of emphasis. Laboratories and the apparatus and the technic of experimentation have been vastly improved during this period. Medicine, once a philosophic study, is rapidly becoming not so much the training of the practitioner as the most serious and important study of a branch of science, and it is rapidly calling to its aid the most complete searching of the other allied sciences, physics, chemistry, biology and anthropology. At the present moment physics is proving of unusual importance. The infant science psychology is beginning to make its contributions. Public health and preventive medicine are growing rapidly in importance to the forward-looking members of the medical profession. The ever increasing flood of writing in scientific fields of importance to medicine is appalling. The medical school library, its scope, size, staff and function, and, we cannot omit, its cost, is becoming a serious problem.

What sort of library, and what kind of librarian are required? What is their contribution to the process of medical research and medical training?

THE BUILDING

It is convenient to consider a medical library as made up of a building, or portion of a building, a collection of books, and service. The layman usually thinks of the relative importance of the three items in the order named. For our purposes, however, the building is sufficient if it is centrally located, houses the books comfortably, provides adequate space for the readers and the staff, and is conveniently arranged for economical administration.

Without an adequate realization of the functions that the library might be called on to perform, the existing medical school libraries were generally planned by architects alone, with the result that most of the libraries are overcrowded with books, cramped for reading space, and frequently badly arranged for the convenience of either the readers or the staff, or both. Bad planning will work serious injury to the library service by out of the way location, restricted

space, the limitation of expansion beyond the initial construction, uncomfortable, poorly ventilated reading rooms or staff quarters, or by forcing lost motion in the handling of books between their receipt and their final disposition on the shelves.

Where new buildings are being planned, the librarian can forestall difficulties of this sort by initiating a thorough study of the library's functions, calculating the necessary book storage space for both immediate and future needs, reading-room space, workroom space, special services, and the economical interrelation of departments, before entrusting plans to the architect. The librarian of even a small collection will find many valuable suggestions both in general plan and in detail in the newer university library buildings, especially in those at Harvard, Michigan, Wisconsin and Minnesota. The new building of the John Crerar Library in Chicago, and the new Public Library at Detroit also have some distinctive modern features of interest to any one planning a library.

The worst mistake made in most of the existing medical school libraries will be avoided hereafter if librarians and architects provide in the initial plans for the convenient and unlimited future expansion of book storage space.

CENTRALIZED COLLECTIONS

The modern medical school library will be a single unit, not a group of department collections for anatomy, bacteriology and the other departments of instruction. The department system of library administration is an unfortunate survival of the early days of medical education in this country when each professor purchased from his own pocket for his office shelves all the books he had to work with, covering, as far as his pocketbook would allow, his own special sphere of interest. He frequently willed his collections, on his death, to his successor or to the institution that he served, his successor adding to it and leaving his collection in the same manner.

Men are still to be found who would resign rather than give up their department libraries. But the constantly increasing flow of scientific publications, the ever mounting costs of administration, the growing realization of the interdependence of the sciences, the elimination of costly duplication, and, with the development of library technic, the appreciation of better service from a centralized collection, are factors gradually inclining the older institutions toward centralization and commending the policy to those responsible for the organization of new undertakings.

The modern medical school library will be a unit, then, but books will occasionally be duplicated in department offices and laboratories. Beilstein, for example, is a laboratory tool as essential to the chemical laboratory as a Bunsen burner. A copy must be in the library for reference for any one working there, but the purchase of a second copy from the chemical supply fund is as legitimate and proper as the purchase of the Bunsen burner.

The end to be attained by unification of the collection is service to the reader. In an emergency, a telephone call and messenger will bring a reference to the laboratory in sufficient time to avert disaster.

BOOKS AND PERIODICALS

In the extent of their collections, the modern medical school libraries generally cannot expect to rival the few great libraries, such as those at the Surgeon General's Office in Washington, the New York Academy of Medicine and the Boston Medical Society; nor is it important that they should, provided they are within easy reach of great medical libraries and can be adequately served by them.

There is a distinct advantage in a careful selection of books, but the more important journals of all countries, in all fields of medicine and the allied sciences, should be available in the medical school library out of reach of the great collections, if research workers are to save the time of doing work already done, and profit by the collective experience of the profession. A representative list at the present time would include six or seven hundred journals, the publications of as many more societies and institutions, and a considerable list of government publications of this and other countries. There will be complete unbroken files of these journals and of one or two hundred others, no longer published, or consolidated with other publications.

If the medical school is (as it should be for other than library reasons) in close contact with the graduate departments of science in a university, many of the necessary but less frequently used publications in the sciences allied with medicine will be found in the general library of the university or in the department libraries. By far the best arrangement is to house the medical library with the general university collection. The less fortunate medical schools, not connected with universities maintaining graduate departments in the allied sciences, will be obliged to collect in their libraries many files of journals not strictly medical in character.

The schools along the Atlantic seaboard, if provided with adequate bibliographic tools, may depend on the great collections in Boston, New York and Washington for the rarer and older publications; but, if medical schools of the highest grade are to be developed inland or on the western coast, a few great, comprehensive collections must be developed in natural regional centers similar to the eastern collections referred to, supplying regional service through interlibrary loans. These greater reservoirs may be sponsored either by academies of medicine or by universities; but at present the centers of research are moving rapidly from the academies to the medical schools.

The Lane Library in San Francisco and the University of Washington Medical School Library in St. Louis are already assuming regional importance.

A modern medical school library will have at its command, then, either in its own stacks or in some friendly and neighborly regional center near it, more than 100,000 volumes of periodicals and publications of learned societies.

In addition to periodicals, the backbone of any scientific research collection, a modern medical library will have many textbooks, monographs, treatises and reference books on a great variety of subjects of immediate interest to the pursuit of medical research, keeping strictly up to date by the immediate purchase of significant books as they are published. Promptness in purchase is particularly important at the present time. Largely because of the high costs of publishing and the limited market for scientific work, publishers are forced to figure editions as closely as possible, and the book that marks a step in advance is likely to be out of print a year or two after it is published.

Extent of Medical Publishing

Year	United States	Great Britain	France	Germany	Total, 4 Countries
1910.....	544	398	1,226	1,981	4,149
1915.....	425	356	202	948	1,931
1920.....	290	446	392	1,489	2,616
1921.....	299	436	528	1,448	2,711
1922.....	298	360	798	1,534	2,997
1923.....	324	433	...	.....	. ...*

* Publishers' Weekly, 1911, 1916, 1920 to date.

The accompanying table will give a rough idea of the extent of medical publishing during the last few years. These figures do not include books in the allied subjects of physics, chemistry, biology, etc., nor do they include periodical titles.

Of course, not all these books are of importance; many may deserve no better classification than that of quackery;

some are revisions or new editions; but some method of selection will be adopted that will insure the development of the collection in a systematic and well balanced way, some method that will insure as far as possible against the omission of important new items.

SELECTION OF BOOKS

But periodicals and current books are not the whole tale, important as they are. The value of the study of historical medicine has been and is becoming more important in the curriculum, and its teaching requires a considerable collection of old books as illustrative material.

Take Sir William Osler's "The Evolution of Modern Medicine" which F. H. Garrison characterizes as "a sweeping panoramic survey of the whole vast field, covering wide areas at a rapid pace, yet with an extraordinary variety of detail." Osler refers to 123 separate books on medicine or medical history, and a glance over Garrison's own "History of Medicine" will suggest to what extent collecting in the field of historical medicine may be carried.

A modern medical school library will seek the most significant milestones of progress among printed books, and will collect more widely as funds permit, leaning rather heavily, perhaps, on gifts from friends who happen to be collectors. Purchasing in this field demands wide reading and a knowledge of the market and prices, and offers a much more complicated problem in book selection than the current publications.

Perhaps the most frequent method of selecting books is the committee method, whereby a few professors pass on recommendations submitted by various or all members of the faculty.

The department appropriation method, assigning a certain amount of money expendable only on order of the department head, amounts to practically the same thing, the committee comprising in this case all department heads, each responsible for selecting within his own field.

The committee method of selecting books entails a great amount of work, if properly done, and takes the members from other problems that should be claiming their attention. The department method divides the duty among more men, with a greater diversity of interests, but usually operates to the unbalancing of the collection, the less energetic, less enthusiastic, and less widely read heads frequently neglecting this duty to the despair of their subordinates in the department.

The library that performs its proper service will have books on its shelves *before* they are wanted. Nothing is more discouraging and irritating to a reader than to find that important recent books have not been purchased, and even a courteous offer to recommend their purchase to some committee or department head seldom saves the library from secret, if not open, condemnation. The clientele of the medical library should expect recent important books to be there as soon as published, a condition seldom seen except in the great collections.

The librarian himself, if properly equipped for his work, will be better qualified to anticipate the needs of his readers than a committee or the department heads, although always ready to receive their suggestions, and to act on them. If properly performing his function, he will be continually working among his books, compiling lists on what the library has and what it does not have, not only for readers in need of bibliographic aid, but also to fill gaps in his collection.

SERVICE

I have briefly considered a modern medical library building and its contents; it remains to consider its function or service. Without service, the library is merely a store house full of unusable, because unorganized and inaccessible, volumes. The service vitalizes the mass; puts the books in some sort of logical order; lists them in a card catalogue by author, subject and title, that they may be found and produced when required, and purchases and adds from time to time such new material as may be determined by these responsible for the selection of books. So much is generally presumed to be the whole service which the library staff may be expected to perform.

In reality, this sort of work is nothing more than library technic, to be entrusted to clerical assistants with some knowledge of foreign languages and of medical terms, trained either in training classes or in library schools. It is a technic more or less uniform in all libraries, for which the rules of procedure are reduced to codes, presenting only occasional exceptions for special decision. Wherever the department library can be made a part of a university library, most of the technical, nonprofessional work, purchasing, accessing, cataloguing and binding, can be left to the general library staff.

But a modern medical school will expect more in the matter of library service than technical proficiency. It will expect of its library staff, primarily of its librarian, *professional* direction and control. It will have a librarian well enough informed in medical bibliography to select books to be purchased, and relieve the library committee or department heads of this responsibility, seeking such advice from them as he will from time to time need.

It will have a librarian widely enough informed to take an active interest in research undertaken by the faculty, and to cooperate with them through the compilation of comprehensive bibliographies and the securing of printed materials likely to promote their success.

It is a matter of grave concern to many research workers in medicine that papers on medical subjects are so poorly and so inaccurately buttressed with bibliographic references. A case occurred recently in which a misquoted reference was traced through five different papers written by five different medical men, the series showing a progressive increment of one reference each.

Many research physicians completely at home in their laboratories are as completely lost in a medical library, and the extent to which professional bibliographic service and abstracting agencies in private hands are commercially successful is evidence not only of the limited time of physicians, but also of their inability to do the work themselves, or to get it done in the existing medical libraries. This work can never be expected to receive the loyal attention from commercial agencies which might properly be expected from institutional colleagues. Without some knowledge and understanding of bibliography, a physician can hardly be expected to differentiate between a good and a bad compilation.

It would be the function of a modern medical librarian to instruct students and give them experience through supervised practice in the use of a library as an aid to research, and in the preparation of a proper bibliography. His teaching function would also include systematic instruction in the history and present extent of medical writing, and the tools available for getting material on a specific subject out of the mass.

I am not aware of a single medical school in which these professional services are demanded of its medical librarian. But in other fields of graduate study, notably in law, the necessity for such professional service has long been recognized, and not infrequently obtained. At present, sixty-three law schools in the United States are presenting courses in legal bibliography by resident teachers, generally the librarians, according to Dr. Frederick C. Hicks, in the preface to his "Materials and Methods of Legal Research," 1923. The introduction to this volume, which is a milestone on the path of progress in its own field, presents some perplexities

that are confronting or about to confront medical school administrators in adding courses in medical bibliography to the curriculum. But it is significant that sixty-three law schools have done it in one way or another in spite of all difficulties, and for exactly the same reasons that a modern medical school librarian will be charged with offering instruction in medical bibliography.

For those now in charge of medical school libraries there are valuable lessons to be gained from the growth of the teaching of legal bibliography. The credit for arousing interest in law books as a study must be given, not to law librarians, but to the publishers of law books who have promoted this study by traveling lecturers for many years. From this has grown the recognition of its importance and value by formal instruction by resident teachers, usually the librarian.[1]

There is a similar necessity for the teaching of medical bibliography, but apparently no similar urge, induced either by well considered commercialism or by some higher motive, for medical publishers to take the initiative. The first step must and will be taken by medical librarians. They may make a beginning with students by offering to a voluntary group, even three or four men, instruction in the proper use of the library and its bibliographic tools. Indifference on the part of the faculty, even, may be attacked by the occasional preparation of a bibliography for some research worker, showing him what can be done, and whetting his appetite for more. Through small beginnings like this, legal bibliography has developed as a formal study, and medical bibliography will develop, bringing with it wider recognition of the importance and value of the medical librarian to his school.

Teachers of medicine do not consider it proper to leave to a technician the outlining of a course in anatomy, for example. They do not turn the student loose in an anatomic laboratory to pick up a knowledge of anatomy by the hit and miss method of unguided investigation. A modern school will not be content to turn a student loose in the library to find his way among the intricacies of medical literature, to pick up his own technic in reporting cases, preparing bibliographies, analyzing other men's discoveries, and writing his own conclusions, unguided. Occasionally a happy accident throws an inquisitive student into contact with a well trained and experienced medical librarian, and through personal instruction he learns how to use a library. Occasionally a professor, laying unusual stress on the importance of historical work in his particular field, digresses from the matter in hand to lay a background, or another with a special interest in bibliographic completeness and accuracy insists on proper references. But such work is haphazard in most medical schools. In a modern medical school it will become a subject for formal instruction under the librarian.

The idea of considering the medical librarian a professional colleague will strike many professors as naive, if not actually ridiculous. They have been too long accustomed to considering him as a technician, and he has been too long content, or too busy with details, or too meagerly endowed with imagination, to be more than a technician.

In no small degree, the present inadequacy of medical school libraries can be laid justly with those who have demanded nothing of the librarian beyond technical service. The libraries are suffering from lack of the planning, direction, service and support that a professional medical librarian recognized as a colleague could give them, and the fact that the deficiencies are so infrequently appreciated completes a vicious circle.

Yet if he has the training and knowledge required to perform properly the professional services required of a modern medical librarian, he will be in every sense a professor and a colleague, and he will be given membership in the faculty, and other considerations commensurate with his value to the school.

There is no waiting list of young men qualified to fill such a position. There was no waiting list of physicians qualified to handle the roentgen ray when it was discovered, but the demand will eventually produce the supply. The great thing that matters is that the necessity for such men should be promptly recognized.

SUMMARY

A modern medical school library will offer to all members of the faculty:

1. An adequate range of collected books and periodicals for the pursuit of their investigations and for teaching.
2. Trained professional assistance in the compilation of comprehensive bibliographies, and the checking of references in writings before publication.
3. Prompt service in assembling printed matter needed for any investigation undertaken.

A modern medical library will give to the student:

1. An understanding, through example, of what a well selected, well organized medical library should be.
2. Some knowledge, through systematic instruction, of the history and present extent of medical writing, and the tools for getting material on a specific subject out of the mass.
3. Experience, through supervised practice in cooperation with other departments, in compiling bibliographies, in quoting references, and in evaluating and abstracting printed material.

These functions are distinctly those of a modern library, and a modern librarian, and are not to be delegated to any other department as incident to its specific and primary field.

1. Hicks, F. C. (law librarian, Columbia University): The Teaching of Legal Bibliography, Educational Rev., 1917, pp. 164-176; introduction to Materials and Methods of Legal Research, Rochester, 1923, pp. 13-20.

Montana October Examination

Dr. S. A. Cooney, secretary, Montana State Board of Medical Examiners, reports the written examination held at Helena, Oct. 2-4, 1923. The examination covered 10 subjects and included 50 questions. An average of 75 per cent. was required to pass. Of the 10 candidates examined, 9 passed and 1 failed. One candidate was licensed by reciprocity. The following colleges were represented:

PASSED		Year Grad.	Per Cent.
Atlanta School of Medicine		(1911)	76
Rush Medical College	(1911)	83.3, (1922)	82.6
Harvard University		(1923)	83
St. Louis University School of Medicine		(1923)	78.1
Creighton Medical College	(1923, 2)	80.6,	86.4
University of Cincinnati College of Medicine		(1922)	84.3
McGill University Faculty of Medicine		(1923)	83.5

FAILED	Year Grad.	Per Cent.
Ensworth Medical College	(1909)	45.1

LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1910)	Washington

Hawaii January Examination

Dr. G. C. Milnor, secretary, Hawaii Board of Medical Examiners, reports the written examination held at Honolulu, Jan. 14-17, 1924. The examination covered 10 subjects and included 54 questions. An average of 75 per cent. was required to pass. Of the 4 candidates examined, 3 passed and 1 failed. The following colleges were represented:

PASSED	Year Grad.	Per Cent.
College of Medical Evangelists	(1923)	84
Rush Medical College	(1923)*	82
Creighton Medical College	(1921)	82

FAILED	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1889)	34

* This candidate has completed his medical course, and will receive his M.D. degree on completion of a year's internship in a hospital.

Book Notices

PROTOPLASMIC ACTION AND NERVOUS ACTION. By Ralph S. Lillie, Biologist, Nela Research Laboratories. Cloth. Price, $3 net. Pp. 417. Chicago: University of Chicago Press, 1923.

The intense activity of recent years directed toward the analysis of the physical, chemical and bio-electric properties of protoplasm has yielded an extensive literature, which is here assembled and digested in the attempt to synthesize the observations in relation to a definite theme. The first half of the book is devoted to a survey of the general characteristics of living matter as related in particular to the chemical, physical and electric properties of its limiting membranes. These membranes, whether cell walls or interface boundaries of the internal protoplasmic emulsion, seem to be the site of the activities that distinguish living protoplasm from dead substance. On the foundation thus laid down, the ensuing chapters deal more specifically with the mechanisms of stimulation and transmission in protoplasm and especially in nerve, whose importance to general physiology is justified by the statement, "This transmissive property of protoplasm is the primary integrative factor in organisms" (p. 259). The discussion of the bio-electric phenomena at the limiting membranes is very detailed, and an electric factor—ionic dissociation, polarization, action current—is shown to be always potent in excitation and conduction. This theme receives abundant illustration in the field of experimental physiology and also by the use of a number of ingeniously contrived physical models. Perhaps not the most important, but certainly the most striking, of the author's own contributions to the analysis of protoplasmic transmission is the demonstration in very simple inorganic models (electrolytic phenomena of activated iron wires immersed in nitric acid) of conduction phenomena that closely simulate nervous currents in their most distinctive physiologic features, including velocity of transmission, summation, refractory periods, and even the peculiar properties of the synaptic junctions. On the basis of all the evidence, a theory of nervous conduction is outlined which presupposes a film-partitioned organization of structures of different chemical composition whose most characteristic activities are at the interface films. These activities are partly chemical and partly electric, the rate of transmission being dependent on the speed of the chemical reactions, and the other properties of the transmission largely on the bio-electric factors. The book, though small, presents in condensed form a wealth of carefully selected experimental work, with ample citations of the literature.

NEUROLOGIC DIAGNOSIS. By Loyal Edward Davis, M.S., M.D., Ph.D. in Surgery, Assistant Professor of Surgery, Northwestern University Medical School. Cloth. Price, $2 net. Pp. 173, with 49 illustrations. Philadelphia: W. B. Saunders Company, 1923.

In this book the author has attempted to correlate closely the facts gained through anatomy, physiology and pathology with the considerations of neurologic examination. Thus, case histories are presented in which only positive facts are given. Following the case history appears a discussion of the symptoms found and the explanation for them, and then a discussion in which the fundamental relationships of the anatomic and pathologic changes to the symptoms are demonstrated. The book is designed, therefore, to serve as a bridge between the textbook on nervous anatomy and the clinical text on nervous diseases. It is the first book of its kind, so far as we know, and its use will no doubt demonstrate that it fulfils its functions admirably.

DIE KLINIK DER BEGINNENDEN TUBERKULOSE ERWACHSENER. I. Der Gang der Untersuchung. Von Dr. Wilhelm Neumann, Privatdozent an der Universität Wien. Paper. Pp. 158, with 26 illustrations. Vienna: Rikola Verlag, 1923.

The author begins his message by paying his respects to poor diagnosis. Such expressions as "neurasthenia" (characterized as an empty American "word husk") "anemia" and the German "Spitzen Katarrh" are relegated to the limbo of worse than useless things. He then passes to errors in chest diagnosis, giving some interesting figures. After stating that the zealous attempts to discover early tuberculosis have resulted in a "small scandal," he shows that of 361 such "early cases," 201 were not tuberculous; of various other series, there were 10, 14 and 35 per cent. that were proved to be nontuberculous cases. Going into the figures of the German army records, Neumann shows that the diagnosis of pulmonary tuberculosis was in error to the extent, in certain hospitals, of 60 and 64.7 per cent., and even as high, in one instance, as 74 per cent. Meixner is quoted: "I could confirm the diagnosis of 'apical catarrh' extremely rarely in field practice." The necropsies of Oberndorfer and Henke gave positive confirmation percentages as low as 10 in one series and 23 in another. The diagnosis in all of the cases mentioned was pulmonary tuberculosis. These memoranda are mentioned in the introduction of the book to give point to the need of a more careful and painstaking study of cases. The author believes that physical diagnosis, if properly understood, will materially diminish the high percentages of error, such as are given above. There follow 136 pages devoted to the study of physical diagnosis and history taking. The subject is treated in a most thorough manner and leaves little, if anything, to be added. Some years ago, Neumann published a paper on the physical findings in scoliosis of lesser degree. This valuable contribution was evidently overlooked in the turmoil incident to the war. Time spent on the present work will be well invested.

STUDY OF WORKMEN'S COMPENSATION, INSURANCE LAWS AND SERVICE, MONOPOLY OR COMPETITION. With Recommendations by the Impartial Committee on Workmen's Compensation Insurance to the Cincinnati Chamber of Commerce. Adopted by the Board of Directors of the Cincinnati Chamber of Commerce. Edited by H. D. Martin, Medical Director, the Pollak Steel Company. Cloth. Price, $5. Pp. 1016, with illustrations. Cincinnati: H. D. Martin, 1923.

This is a record of the proceedings of a committee appointed by the Cincinnati Chamber of Commerce to investigate workmen's compensation laws and insurance carriers. The investigation extended over practically the entire United States and into the Dominion of Canada. A verbatim report of evidence taken by the committee and copies of briefs filed with it cover almost a thousand pages. Of conditions found, the committee says: "We are compelled to believe, after our extensive investigation, that there are entirely too many accidents occurring in industry; that the length of disability could be measurably decreased; that the reclamation of the industrial cripple has been hardly touched; and that the level of benefits is not entirely adequate." The committee reported no conclusions or recommendations with respect to the freedom of choice of physicians by injured workmen. Testimony regarding the medical relations of workmen's compensation acts is scattered through the general mass of testimony, but the index refers the reader to it. This volume was compiled with specific reference to the needs of Ohio. Outside that state it will prove of value as a source book for investigators and research workers, and as such it should find a place in the libraries to which they resort.

MODERN METHODS IN THE DIAGNOSIS AND TREATMENT OF HEART DISEASE. By Francis Heatherley, M.B., B.S., F.R.C.S., Superintendent, Heart Clinic, Manchester. Cloth. Price, $2. Pp. 199. New York: William Wood & Co., 1923.

The title of this book may cause the reader to be unduly apprehensive as to its contents, and to fear that it is another volume largely devoted to the laboratory diagnosis of heart disease. Any misgivings are dispelled in the preface, in which the author says: "As the new school considers that the knowledge achieved by graphic methods can be put to practical use without recourse to either the electrocardiograph or the polygraph, I have omitted to give any tracings, as I consider their confidence well founded"—a bit of wholesome common sense. As a result, in part, of advances in the field of cardiac physiology, and, in part, of a more practical clinical interpretation of already known facts, our concepts of heart disease have changed a great deal in the last few years. There has been need for just what the author states in his preface, a "short, clear sketch of the present knowledge of heart disease," written for the "general practitioner who is too busy to wade through all the recent and often conflicting

literature on the subject." Dr. Heatherly is especially well qualified to write such a volume, and he has given us one that fills the need admirably. It is short, well written, and very readable for a book into which are condensed so many practicable points in diagnosis and treatment. It is only to be regretted that consideration was not given to the rôle of infection, and especially the mild, subacute cases of endocarditis. The volume is of especial value to the general practitioner, for whom it was written, but it can be recommended to every one.

BANDAGING. By A. D. Whiting, M.D., Surgeon to the Germantown Hospital. Second edition. Cloth. Price, $1.75 net. Pp. 155, with 117 illustrations. Philadelphia: W. B. Saunders Company, 1923.

This book is made up of lectures on bandaging given at the University of Pennsylvania. It is for beginners. The object of bandaging, as well as the way to apply various bandages, is given. The book is small and well made, and there are many illustrations. The author considers bandaging an art, which can be acquired only through a proper conception of what a bandage is supposed to do. To accomplish a purpose rather than to create a thing of beauty should underlie every attempt to bandage. A "pretty" bandage may not be well applied, and may do considerable harm. A perfect bandage accomplishes its object by a combination of turns so arranged that no unnecessary material is used; so placed that none are required to cover underlying defects, and so applied that the pressure throughout is even and sufficient, but not more than enough to fill the requirements. Perfection should be sought in every instance.

CLINICAL MEMORANDA FOR GENERAL PRACTITIONERS. By Alex. Theodore Brand, M.D., C.M., V.D., Medical Officer, Driffield Poor Law Institution, and John Robert Keith, M.A., M.D., C.M., Deputy Medical Officer, Driffield Poor Law Institution. Second edition. Cloth. Price, $3. Pp. 375. New York: William Wood & Co., 1924.

This book is designed for young general practitioners. It is a collection of unconnected memoranda. There are several pages of "aphorisms" in this book; among them are these, which speak for themselves: 1. A monarthritis in a young man is almost sure to have a gonorrheal origin. 2. Never forget that "rheumatism" occurring below the knee very often means flatfoot. 3. The commonest cause of pain in the left axilla is flatulence. There is a nicety of expression, a suggestion of medical folk-lore, and some value in spots in this book; but in spite of a page of commendatory book notices from various British medical journals, it is not likely that the book will help practitioners to keep up with the progress of medicine.

WOMAN'S PHYSICAL FREEDOM. By Clelia Duel Mosher, M.D., Associate Professor of Personal Hygiene, Stanford University. Third edition. Cloth. Pp. 87. New York: The Woman's Press, 1923.

In this booklet Dr. Mosher has concentrated a mass of sound advice on the personal hygiene of women, based not only on her extensive experience as medical adviser of women in Stanford University, but also on a thorough knowledge of the literature and on personal research. She has devoted particular attention to the problems of painful and difficult menstruation. For this, a hygiene of life and a series of simple exercises have been developed which have yielded satisfactory results in many cases. The book is a sound text on the subjects it covers; it may be safely recommended by physicians to their patients. Its use should be encouraged, for the application of the doctrines it advances will bring immeasurable relief and comfort to a vast number of women whose present ailments and distress are the result of a lack of knowledge of the things it teaches.

PHYSICAL EXAMINATION AND DIAGNOSTIC ANATOMY. By Charles B. Slade, M.D., Medical Examiner of the New York City Department of Health. Third edition. Cloth. Price, $2 net. Pp. 179, with 43 illustrations. Philadelphia: W. B. Saunders Company, 1923.

This textbook of the technic, fundamental methods and principles of physical examination deals almost entirely with the study of the "normal," and is intended to prepare students for the more complicated study of physical diagnosis. It is simple, direct and accurate. In this edition two chapters have been added, one on the physics of sound and the other on blood pressure and the sphygmomanometer. The diagrams and illustrations are well selected and adequate. It is a good manual for use in the first course in physical examination and diagnosis.

DIAGNOSTISCHE UND THERAPEUTISCHE IRRTÜMER UND DEREN VERHÜTUNG. Innere Medizin. Herausgegeben von Prof. Dr. J. Schwalbe, Geh. San.-Rat. Zweites Heft: Psychiatrie, von Geh. Med.-Rat Prof. Dr. E. Meyer, Direktor der Psychiatrischen und Nervenklinik der Universität in Königsberg. Second edition. Paper. Pp. 119. Drittes Heft: Neurosen, Von Professor Dr. L. W. Weber, Direktor der städtischen Nervenheilanstalt in Chemnitz; Unfallsneurosen, von Professor Dr. O. Naegeli, Direktor der Medizinischen Universitätsklinik in Zurich. Second edition. Paper. Price, $0.38. Pp. 79. Sechstes Heft: Krankheiten des Verdauungskanals, des Pankreas und des Peritoneum, von Professor Dr. Carl von Noorden, Geh. Med.-Rat. Second edition. Paper. Pp. 107. Neuntes Heft: Infektionskrankheiten, von Geh. Med.-Rat Prof. Dr. M. Matthes, Direktor der Medizinischen Universitätsklinik in Königsberg. Second edition. Paper. Pp. 156, with 2 illustrations. Zehntes Heft: Krankheiten des Blutes und der Drüsen mit innerer Sekretion, von Professor Dr. O. Naegeli, Direktor der Medizinischen Universitätsklinik in Zürich. Second edition. Paper. Price, $0.32. Pp. 68, with 4 illustrations. Leipsic: Georg Thieme, 1923.

These little books, edited under the leadership of Dr. Schwalbe, and each of them written by an experienced teacher of the subject, would well repay perusal by the general practitioner. They are not systematic treatises on the various subjects, nor are they intended to be. They emphasize chiefly the diagnostic and therapeutic pitfalls to which even an experienced physician may fall victim; and, in this way, they give an interesting and different manner of presentation from that found in ordinary textbooks.

THE HOSPITAL LIBRARY. Comprising Articles on Hospital Library Service, Organization, Administration and Book Selection, Together with Lists of Books and Periodicals Suitable for Hospitals. Edited by Edith Kathleen Jones, General Secretary, Division of Public Libraries, Massachusetts Department of Education. Cloth. Price, $2.25. Pp. 190, with 6 illustrations. Chicago: American Library Association, 1923.

The value of books "as recreational, educational and therapeutic factors in hospitals" is emphasized in this survey of the history and administration of hospital libraries. Half of the book is devoted to suggestive lists of books for patients, adult and juvenile, and of professional books for nurses. We cannot agree with some of the author's opinions concerning technical medical libraries.

VERTEBRATE EMBRYOLOGY. By Robert S. McEwen, Assistant Professor of Zoology in Oberlin College. Cloth. Price, $4.75. Pp. 544, with 252 illustrations. New York: Henry Holt & Company, 1923.

After introductory chapters on division and maturation, this introductory textbook presents in detail the development of the frog. A brief survey of *Teleostei* and *Gymnophiona* is made for purposes of comparison. Then the embryology of the chick is presented as it develops day by day. The book concludes with a brief study of mammalian embryology, particularly as regards the development of the placenta, cord and membranes. Bibliographic material, a good index, and plentiful illustrations round out the work.

A BIBLIOGRAPHY OF EUGENICS. By Samuel J. Holmes, Professor of Zoology in the University of California. Paper. $5. Pp. 514. Berkeley: University of California Press, 1924.

The references are divided by subjects, including heredity and eugenics in relation to such topics as feeblemindedness, epilepsy, crime, insanity, alcoholism, pauperism, birth rate, birth control, infant mortality, urban and industrial development, consanguinity, race mixture and sex determination.

THE NEUROLOGICAL ASPECT OF LEPROSY ("SPEDALSKHED"). By G. H. Monrad-Krohn. Paper. Pp. 78, with 39 illustrations. Christiania: Jacob Dybwad, 1923.

This proves that Norway still contributes the most important research in leprosy, which for centuries has been endemic on the western coast of that country, where a modern, well equipped hospital is maintained for the segregation and treatment of lepers. The author of the monograph, which is written in English, is professor of neurology in the University of Christiania. The book gives an up-to-date account of the important nervous forms of the disease, with many original observations by the author.

Medicolegal

"Physician and Surgeon" and "Naturopath" Defined—Practice

(Millsap v. Alderson et al. (Calif.), 219 Pac. R. 469)

The District Court of Appeal of California, Second District, Division 1, in reversing a judgment that annulled an order of the board of medical examiners which revoked respondent Millsap's certificate to practice naturopathy, says that he was licensed in August, 1909, to practice naturopathy, and had, in addition thereto, practiced medicine and surgery. He contended that the certificate issued to him by the board of medical examiners authorized him to engage in the practice of medicine and surgery. The court, however, thinks it apparent from the statutes, particularly since the passage of the medical act of 1901, which was in effect at the time the respondent was granted his certificate or license to practice naturopathy, that it was intended to confer on those holding physicians' and surgeons' certificates unlimited authority to prescribe for and treat the sick and afflicted, and to use any and all methods in such treatment. Therefore the court concludes that a physician and surgeon is one who holds an unrevoked, unlimited certificate from the board of medical examiners to treat the sick and afflicted. The articles of incorporation of the Association of Naturopaths of the State of California say that the materia medica shall consist of light, air, water, clay, heat, besides rest, diet, herbs, electricity, massage, Swedish movements, suggestive therapeutics, chiropractic, magnetism, physical and mental culture, etc. Therefore, the substances employed by one practicing naturopathy in the treatment of the sick and afflicted would be light, air, water, etc., and a naturopath or a doctor of naturopathy would be a person who holds an unrevoked certificate from the board of medical examiners, authorizing him to treat the sick and afflicted by the use of the substances enumerated.

From these definitions of a physician and surgeon and of a naturopath, it must be evident that the calling or profession of one differs materially from the calling or profession of the other; that the system of healing employed by the naturopath has little in common with that employed by the physician and surgeon, and that, while the physician and surgeon is authorized to treat the sick and afflicted by any and all methods and means, the naturopath is limited in his treatment to his particular system. It is true, as suggested by the respondent, that among the acts which the law permits a physician and surgeon to perform is to prescribe medicine, magnetism and electricity, and that herbs, electricity and magnetism are included among the substances that compose the materia medica of naturopathy, and therefore are permitted to be prescribed by a naturopath or doctor of naturopathy. Conceding that a naturopath has the right to prescribe herbs, electricity and magnetism to the same extent as that exercised by a physician and surgeon, yet the possession of this right or privilege by the naturopath does not constitute him a physician and surgeon, in the absence of any right to exercise the other duties of a physician and surgeon.

For the years 1919, 1920 and 1921, the respondent paid the annual license fee required of every holder of a license under the medical practice act, and received from the board of medical examiners a receipt which recited the payment and that he "was thereby entitled to practice as a physician and surgeon." Moreover, the board published a directory which contained a tabulation of all certificates issued between Aug. 1, 1901, and Aug. 10, 1913: "To practice medicine and surgery, 2,233, to practice osteopathy, 258, to practice any other system, none." The respondent's name was in the directory, followed by the letter "N." But that did not authorize him to practice medicine and surgery. The board could not do indirectly what it was prohibited from doing directly, by "recognizing" his certificate to practice naturopathy as one entitling him to practice medicine and surgery.

The Supreme Court of California, in denying an application for the transfer to it of the case, says that the application was based, in part, on a conflict between the foregoing decision and a decision rendered in *Re Gerber*, 57 Cal. App. 141, 206 Pac. 1004. So far as that case is inconsistent with the decision in the instant case, the supreme court disapproves of the decision in *Re Gerber*.

Fracture of One Bone Not Complete Fracture of Arm

(Columbia Mut. Life Assur. Co. v. Penn (Miss.), 97 So. R. 673)

The Supreme Court of Mississippi, Division B, in reversing a judgment obtained by plaintiff Penn, says that the provisions of the policy contracts on which this suit was solely based provided a benefit for a complete fracture of the arm at or above the wrist. There was no contention that both bones of the plaintiff's forearm were broken, and there was no evidence that the ulna was injured at all, but the proof offered by the plaintiff was to the effect that there was a complete fracture of the radius. This gave rise to the question of whether a fracture of one bone of the forearm is a complete fracture of the arm within the meaning of the provisions of a policy like those mentioned above. The court holds that it is not. The word "fracture" connotes the breaking of a hard substance, and to have a complete fracture of the arm it is necessary that there be a complete break of all the bony substances in the arm; and, since there are two bones in the forearm, there can be no complete fracture of the forearm unless there is a break of both bones.

Use of Plaster Cast—Complications—Liability

(Warwick v. Bliss (S. D.), 195 N. W. R. 501)

The Supreme Court of South Dakota, in reversing a judgment for damages obtained by the plaintiff for alleged negligence in treatment by the defendant, says that the plaintiff suffered a fracture of the bones of his left leg between the knee and the ankle. The defendant was requested to attend the case. After the proper preparation of the leg, the defendant, his partner, and a physician from Sioux Falls proceeded to set the broken bones, and placed on the leg a plaster cast, which extended from about 6 inches above the knee down to the ankle. On the first or second day thereafter, the lower end of the cast was split in order to relieve the pain caused by the swelling of the leg and ankle, and on the eighth day the cast was taken off, owing to the continuance of the swelling and the pain. Two days after that, the plaintiff was taken to the office in Sioux Falls of the physician who had helped to reduce the fracture. There a roentgenogram was taken, which revealed the fact that the ends of the bones had slipped out of place. The plaintiff was then taken back to what may be called his home town, and the defendant and his partner reset the fracture, and applied an ambulatory splint. From this time the defendant had no further connection with the case. The injury continued to be very painful, and a week after the resetting of the fracture the plaintiff was taken to Dell Rapids, where another roentgenogram was taken, which showed that the broken bones were again out of place. The case was then turned over to another physician, and the defendant's partner had no further connection with it. The Dell Rapids physician made an incision and found that there was a portion of the periosteum and some of the muscle of the leg between the ends of the broken bones. He removed this periosteum and muscle, placed the fragments of the bones in apposition, and attached a Lane's plate; but the bones did not knit, osteomyelitis developed, and after it gangrene, so that amputation became necessary. Subsequently the plaintiff brought this action, against the defendant alone, to recover damages for the loss of the foot. However, there was no evidence from which negligence could be inferred, and a verdict should have been directed for the defendant.

The undisputed testimony on the part of both the plaintiff and the defendant was to the effect that the use of a plaster cast as applied by the defendant to the plaintiff's injury was the usual and ordinary way of treating an injury of that character in that vicinity. It was also shown by undisputed evidence that in the absence of complications the use of a cast nearly always proves sucessful. In this case there were complications. It was sufficient that the defendant followed what was considered the proper practice of the profession under like circumstances in his vicinity, and that he acted on his

best judgment. It must be remembered that surgery is not an exact science. Similar treatment of apparently similar injuries of different individuals does not produce the same effect. There is always the physical vigor and nervous condition of the patient to be reckoned with, to say nothing about the unknown complications that may exist; as, for instance, the muscle and periosteum between the bones and the cause that afterward produced osteomyelitis in the present case. It might be fairly inferred from the record in this case that, had it not been for the complications afterward found to exist, the plaintiff's injury would have yielded to the defendant's treatment and a cure have been effected within the usual length of time. It might be, too, that, had the defendant made an incision, as was done by the other physician, and removed the substance from between the ends of the broken bones before they were set, they would have united. On the other hand, it might be possible that the blow or other injury to the bone that afterward brought on the osteomyelitis was such as would have prevented a cure in any event. But this was all a matter of speculation, and the fact remained that the defendant followed the usual and ordinary course in such cases in his vicinity, and the course that ordinarily produces a cure.

Injured Employee Contracting Typhoid in Hospital

(Carr v. Donner Steel Co. et al. (N. Y.), 201 N. Y. Supp. 604)

The Supreme Court of New York, Appellate Division, Third Department, says that in this proceeding under the workmen's compensation law to recover for the death of an employee of the defendant steel company, the award made by the state industrial board should be reversed, and the claim dismissed. July 14, the employee received injuries to his back and both forearms, in the nature of second and third degree burns. He was immediately removed to a hospital, where he was treated for his injuries until about August 10, when the hospital physician told him that he might go home, the burns having sufficiently healed to permit him to be treated at home. His wounds never became infected. But on the evening of the day that he left the hospital he returned with symptoms which two days later were followed by a diagnosis of typhoid fever, from which disease he died, October 8. His burns did not continue to heal as rapidly after the typhoid set in, but required no treatment after August 23. The state industrial board made a finding that the burns and continuous treatment for them had so debilitated the man and had so lowered his vitality and power of resistance that he was deprived of that degree of such power necessary to resist the infection of typhoid fever; and that his death was the direct result of the injuries which he sustained, July 14. The sole testimony on which the board relied to reach that conclusion was the testimony of a physician that "the burns may have been a contributing factor, in that they may have made for a lowered resistance," though other physicians testified positively that the burns had nothing to do with the typhoid, and did not make the man less able to combat its onslaught. Surely all of the attendant facts were not sufficient to indicate to the lay mind that the only fair inference to be drawn was that the accident proximately contributed to the man's death.

It has not been held, and the court thinks it is going too far to hold, that an employer is liable for every disease a man contracts while in a hospital after he has been injured. Some causal relation must be established by competent proof showing that the injury or death through such a disease naturally and unavoidably resulted from the industrial accident. There have been cases of pneumonia and tuberculosis in which the evidence has disclosed that the germs of those diseases are always in the body, and that those germs more successfully attack the body after a serious accident. In such cases the court has been able to see that the industrial board could fairly infer from all the facts in the case that a death was directly caused by an industrial accident. It is a medical question, which is usually resolved by obtaining a medical opinion ample to sustain the finding of the board that the accident was a proximate cause. This case must be distinguished, too, from one in which there was a finding that at the time of his accident the employee injured was suffering from typhoid fever in the incubation stage, "which became aggravated by the severe injury to his head through the consequent lowering of his resisting power, and the disease thus aggravated caused his death," which finding the courts sustained.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Chicago, June 9-13. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association of Genito-Urinary Surgeons, Stockbridge, Mass., May 26-28. Dr. Henry G. Bugbee, 40 East 41st St., New York, Sec'y.

American Climatological and Clinical Association, Atlantic City, May 1-3. Dr. Arthur K. Stone, Framingham Center, Mass., Secretary.

American Dermatological Association, Minneapolis, Minn., June 5-7. Dr. Udo J. Wile, 211 East Huron Street, Ann Arbor, Mich., Secretary.

American Gastro-Enterological Association, Atlantic City, May 5-6. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.

American Gynecological Society, Hot Springs, Va., May 15-17. Dr. A. H. Curtis, 104 South Michigan Avenue, Chicago, Secretary.

American Laryngological Association, Swampscott, Mass., June 2-4. Dr. George M. Coates, 1811 Spruce Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, St. Louis, May 29-31. Dr. W. H. Haskin, 40 East 41st Street, New York, Sec'y.

American Neurological Association, Philadelphia, June 5-7. Dr. Frederick Tilney, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Hot Springs, Virginia, May 26-28. Dr. T. B. Holloway, 1819 Chestnut Street, Philadelphia, Secretary.

American Orthopedic Association, Baltimore, May 15-17. Dr. Forrest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.

American Otological Society, Swampscott, Mass., June 3-5. Dr. Thomas J. Harris, 104 E. 40th Street, New York, Secretary.

American Pediatric Society, Pittsfield, Mass., June 5-7. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Psychiatric Association, Atlantic City, June 3-6. Dr. C. Floyd Haviland, Drawer 18, Capitol Station, Albany, N. Y., Secretary.

American Radium Society, Chicago, June 9-10. Dr. Edwin C. Ernst, Humboldt Bldg., St. Louis, Secretary.

American Society of Clinical Pathologists, Rochester, Minn., June 5-7. Dr. Ward Burdick, 652 Metropolitan Building, Denver, Secretary.

American Society of Tropical Medicine, Chicago, June 9-10. Dr. B. H. Ranson, Bureau of Animal Industry, Washington, D. C., Secretary.

American Urological Association, Atlantic City, June 3-5. Dr. Homer G. Hamer, 723 Hume-Mansur Building, Indianapolis, Secretary.

Arizona Medical Association, Phoenix, April 24-26. Dr. D. F. Harbridge, Goodrich Building, Phoenix, Secretary.

Arkansas Medical Society, Fayetteville, May 20-22. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Associated Anesthetists of the United States and Canada, Chicago, June 9-10. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Association of American Physicians, Atlantic City, May 6-7. Dr. Thomas McCrae, 1929 Spruce Street, Philadelphia, Secretary.

California Medical Association, Los Angeles, May 12-15. Dr. Emma W. Pope, Balboa Building, San Francisco, Secretary.

Connecticut State Medical Society, Hartford, May 28-29. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Georgia, Medical Association of, Augusta, May 9-11. Dr. Allen H. Bunce, Healey Building, Atlanta, Secretary.

Hawaii, Medical Society of, Honolulu, April 26-28. Dr. W. K. Chang, McCandless Block, Honolulu, Secretary.

Illinois State Medical Society, Springfield, May 6-8. Dr. W. D. Chapman, Silvis, Secretary.

Iowa State Medical Society, Des Moines, May 7-9. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Wichita, May 7-8. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.

Louisiana State Medical Society, Opelousas, April 21-24. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 22-24. Dr. J. A. Chatard, 1211 Cathedral St., Baltimore, Secretary.

Massachusetts Medical Society, Boston, June 6-7. Dr. W. L. Burrage, 182 Walnut St., Brookline, Secretary.

Medical Library Association, Chicago, June 9-10. Dr. John Ruhräh, 11 East Chase St., Baltimore, Secretary.

Medical Women's National Association, Chicago, June 9-10. Dr. M. J. Potter, First National Bank Building, San Diego, Calif., Secertary.

Mississippi State Medical Association, Jackson, May 13-15. Dr. T. M. Dye, Clarksdale, Secretary.

Missouri State Medical Association, Springfield, May 6-8. Dr. E. J. Goodwin, 3529 Pine Street, St. Louis, Secretary.

National Tuberculosis Association, Atlanta, Ga., May 7-10. Dr. George M. Kober, 370 Seventh Avenue, New York, Secretary.

Nebraska State Medical Association, Omaha, May 13-15. Dr. R. B. Adams, 1013 Terminal Building, Lincoln, Secretary.

New Jersey, Medical Society of, Atlantic City, June 5-7. Dr. J. B. Morrison, 97 Halsey Street, Newark, Secretary.

New Mexico Medical Society, Santa Fe, May 27-29. Dr. Charles M. Yater, Roswell, Secretary.

New York, Medical Society of the State of, Rochester, April 22. Dr. Edward L. Hunt, 17 West 43d Street, New York, Secretary.

Ohio State Medical Association, Cleveland, May 13-15. Mr. Don K. Martin, 131 East State Street, Columbus, Secretary.

Oklahoma State Medical Association, Oklahoma City, May 13-15. Dr. C. A. Thompson, 508 Commercial Nat'l Bank Bldg., Muskogee, Sec'y.

Radiological Society of North America, Chicago, June 6-7. Dr. M. J. Sandborn, Appleton, Wis., Secretary.

Rhode Island Medical Society, Providence, June 5. Dr. I. W. Leech, 369 Broad Street, Providence, Secretary.

Texas, State Medical Association of, San Antonio, April 29-May 1. Dr. Holman Taylor, 207½ W. 11th Street, Fort Worth, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Gynecology, St. Louis

7: 253-372 (March) 1924

Inorganic Constituents of Blood in Pregnancy. W. Denis and E. L. King, New Orleans.—p. 253.
The College; the Hospital; the Medical Student. G. K. Dickinson, Jersey City, N. J.—p. 259.
Diverticula and Diverticulitis. J. M. Lynch, New York.—p. 269.
*Condition of Pelvic Floor, Cervix and Fundus in Three Hundred Cases, Six Weeks or Longer, Postpartum. B. Lankford, Norfolk, Va.—p. 275.
Septic Infections Following Childbirth. E. A. Vander Veer, Albany, N. Y.—p. 280.
Duplex Uterus with Multiple Pregnancy: Cases. W. S. Bainbridge, New York.—p. 285.
Fulguration of Hunner Ulcers. H. D. Furniss, New York.—p. 288.
Case of Carcinoma of Base of Appendix. M. A. Tate, Cincinnati.—p. 291.
Maternal Morbidity and Mortality in United States. G. L. Mosher, Kansas City, Mo.—p. 294.
Renaissance of Abdominal Surgery; Passing of Gynecologist. J. B. Deaver, Philadelphia.—p. 299.
*Eye Changes with Preclamptic Symptoms. L. Mills, Los Angeles.—p. 304.
*Uterine Secretion: Its Nature in Human Being. I. Kross, New York.—p. 310.
Maternal and Infant Welfare. W. D. Chapman, Silvis, Ill.—p. 314.
Hydrostatic Bag for Induction of Labor. G. H. Lee, Galveston, Tex.—p. 319.

Condition of Uterus Postpartum.—There were 225 out of 300 cases analyzed by Lankford in which appreciable lacerations of the cervix were found. There were 119 cases showing some abnormality in the position of the fundus, seventy-four of them in which the fundus was completely displaced backward, and would certainly have given some future trouble. All but five of these seventy-four uteri were put back into approximately normal position and remained so, checked up by subsequent examinations. This seems to show that a very large number of women develop backward displacement after parturition, but also that such a condition is easily amenable to proper treatment.

Eye Changes with Preeclamptic Symptoms.—Mills finds that the eyes are involved in more than 90 per cent. of all cases of pregnancy as a result of the physiologic enlargement of the pituitary gland, which causes different degrees of contraction of the visual fields by pressure on the optic commissure and tracts. In the more marked cases more or less retinal venous stasis probably arises from the same origin. A temporary but decided loss of central as well as temporal vision, amounting to practical blindness at times, has also been noted in occasional cases, heretofore classed among the toxemias of pregnancy. No gross renal, blood or obstetric pathology is found in such cases, which probably represent an acute obstructive retinal stasis and edema, or the direct effect of relatively excessive pressure on the optic nerve system, or a combination of these factors. The symptoms in these cases of headache, nausea and vomiting, epigastric and colonic distresses, hitherto assumed to be preeclamptic, occur frequently without renal or hepatic disturbance. They arise probably from the local intracranial pressure of the hypertrophied pituitary as well as from greatly increased pituitary function. The separation of the symptoms, hitherto considered preeclamptic, into those of pituitary origin and those arising out of a genuine toxemia of pregnancy, and an accurate knowledge of the relative importance of each, will be largely accomplished, by systematic examinations of the visual fields and eyegrounds of all pregnant women who suffer late in pregnancy from headache, nausea and vomiting, abdominal distress and renal or hepatic disturbance.

Nature of Uterus Secretion.—Kross believes that the hematocolpos fluid is thoroughly mixed with uterine secretion that contains a fibrinolytic ferment similar to that present in the rat, and that its fluid nature is due to the action of this ferment. Similarly, it can be stated that in the normal woman, the menstrual blood is fluid and that it does not clot subsequent to its escape from the uterus and vagina, as a result of the activity of this ferment. When the menstrual fluid is composed of more or less clotted blood, in a woman whose internal genitalia are not the seat of abnormal anatomic changes, it seems proper to the author to conclude that in that case there is a deficiency of this fibrinolytic or thrombolytic ferment.

American Journal of Ophthalmology, Chicago

7: 177-256 (March) 1924

Anomalous Spiral Looping of Retinal Vein. U. H. Merrill and H. P. Wagener, Rochester, Minn.—p. 177.
Giving Sight to Animals Deprived of Functioning Eyes. H. Przibram, Vienna, Austria.—p. 179.
Cysticercus of Vitreous. G. H. Kress, Los Angeles.—p. 182.
Optic Atrophy Following Distant Hemorrhage. D. F. Harbridge, Phoenix, Ariz.—p. 192.
Operation for Keratoconus. M. Wiener, St. Louis.—p. 197.
Irregular Astigmatism. E. Jackson, Denver.—p. 199.
Treatment of Intra-Ocular Foreign Bodies. W. V. Moore, Brooklyn.—p. 204.
Detection and Localization of Intra-Ocular Foreign Bodies. G. S. Dixon, New York.—p. 206.
Treatment of Intra-Ocular Foreign Bodies. J. H. Ohly, Brooklyn.—p. 208.
Unilateral Congenital Ptosis Corrected by Hunt-Tansley Operation. C. Loeb, Chicago.—p. 216.
Annular Gummatous Conjunctivitis. C. V. Lundvick, Chicago.—p. 217.
Mucocele of Ethmoid with Proptosis of Right Eye. R. L. Bower, Chicago.—p. 218.

American Journal of Public Health, Albany

14: 181-280 (March) 1924

Full-Time Health Officers. J. W. S. McCullough, Toronto.—p. 188.
Administrative System of Public Health Laboratory. J. R. Bean, Birmingham, Ala.—p. 197.
Organization and Budget of Health Department in City of 20,000. I. V. Hiscock, New Haven, Conn.—p. 203.
Isolation Before Diagnosis. W. C. Sieker, Shorewood, Wis.—p. 208.
Schick Test and Toxin-Antitoxin Immunization Against Diphtheria. F. W. Sears, Syracuse, N. Y.—p. 210.
*Mortality from Puerperal Septicemia for Certain States, 1900-1920. G. E. Harmon, Cleveland.—p. 214.
Nutrition Work in City of Rochester, N. Y. W. R. P. Emerson, Boston.—p. 223.
Virginia Plan for Health Education in Public Schools. M. E. Brydon, Richmond, Va.—p. 229.

Mortality from Puerperal Septicemia.—Harmon shows that among the states the average mortality rate from puerperal septicemia of Colorado, the highest, is more than twice that for New Hampshire, the lowest. Maine, California, Vermont, New York, Maryland, Rhode Island, Michigan, Pennsylvania, and Colorado exhibit a decline in mortality from puerperal septicemia. New Hampshire, Massachusetts, Connecticut, New Jersey and Indiana show an increase. The course of the mortality from puerperal septicemia has been extremely variable. During recent years all units with the exception of Massachusetts show a decrease in the mortality from puerperal septicemia. The high mortality rates, the lack of a consistent downward trend, and the variability of the rates demand that greater attention be given to the prevention of puerperal infections and that efforts to accomplish this end be organized as soon as possible.

Archives of Internal Medicine, Chicago

33: 281-405 (March) 1924

*Visceral Nervous System. Reflex Control of Pylorus. A. J. Carlson and S. Litt, Chicago.—p. 281.
Standards for Vital Capacity of Lungs of Women. R. E. Boynton, Minneapolis.—p. 292.
"Myeloblast" under Normal and Pathologic Conditions. H. Downey, Minneapolis.—p. 301.
*Caffein as Antidote for Morphin. C. C. Haskell, J. E. Rucker and W. S. Snyder, Richmond, Va.—p. 314.
Dynamics of Ventricular Systole. II. Hypertension. H. S. Feil and L. N. Katz, Cleveland.—p. 321.
*Sarcoma and Carcinoma of Liver Following Cirrhosis. R. H. Jaffe, Chicago.—p. 330.
*Arteriosclerosis and Hypertension. J. P. O'Hare and W. G. Walker, Boston.—p. 343.
*Pulsus Paradoxus (Pericardial Effusions). H. W. Gauchat and L. N. Katz, Cleveland.—p. 350.
*Id. II. Experimental. L. N. Katz and H. W. Gauchat, Cleveland.—p. 371.

Origin of Urinary Ammonia. II. I. M. Rabinowitch, Montreal.—p. 394.
*Colloidal Gold and Colloidal Mastic Tests. H. Wassermann, Baltimore. —p. 401.

Reflex Control of Pylorus.—A new method of accurate and continuous recording of the tonus and contractions of the pylorus is described by Carlson and Litt, a method that seems to involve the minimum of local trauma consistent with accurate graphic recording. As a working hypothesis, the view is advanced that the action of visceral efferents (sympathetic and autonomic), at least on some of the motor mechanisms, are association or reflex responses and not simple peripheral responses like that of the skeletal muscles on stimulation of the pyramidal tract. That is, the visceral efferents are in reality afferents to local but diffuse reflex mechanism in the viscera. The prevailing view of simple antagonistic action of the vagus and the sympathetic systems is not tenable for the cardia, the stomach and the pylorus. Motor or inhibitory effects on these regions of the intestine are produced by both the vagi and the splanchnic systems, the character of the peripheral response depending on the initial physiologic state of the peripheral motor mechanism, analogous to the so-called "postural reflexes" of the spinal-skeletal system.

Caffein in Morphin Poisoning.—From the experiments made by Haskell, Rucker and Snyder, it appears that caffein, either in large amounts or in doses comparable to those sometimes employed clinically, instead of proving an effective antidote for morphin poisoning, actually exerts an unfavorable action.

Sarcoma and Carcinoma of Liver Following Cirrhosis.—In the case cited by Jaffe, the clinical diagnosis of cirrhosis of the liver was made fifteen years previously. The anatomic examination revealed an extensive transformation of the liver. That the cirrhosis was still progressing was indicated by recent changes on the periphery of the acini. From the clinical history and the result of the microscopic examination, Jaffe believes that the cirrhosis preceded the carcinoma as well as the sarcoma. Both tumors had developed from tissue which could be identified as of cirrhotic origin. The connective tissue between the transformed liver acini was old scar tissue. That sarcoma may arise from scar tissue is well known. The carcinoma started in regenerated liver tissue. The regeneration was due to the cirrhotic destruction of the liver, but it was no doubt, greatly stimulated by the sarcoma which had destroyed almost the whole right lobe. Some causal relations, therefore, may have existed between the two malignant tumors.

Arteriosclerosis and Hypertension.—Fifty cases of peripheral arteriosclerosis with systolic blood pressures under 145 were studied by O'Hare and Walker. The peripheral sclerosis varied from slight tortuosity or thickening to beading and calcification. More than half of these cases showed almost no sclerosis. From the arrangement of the blood pressures according to an ascending value for the systolic, it was evident that there is no relation between the height of either the systolic or diastolic pressure and the degree of sclerosis. In a second series of fifty cases of peripheral sclerosis with systolic pressures over 145, the degree of peripheral sclerosis averaged somewhat less. The lack of relationship between peripheral and retinal sclerosis was particularly well demonstrated in this group. The authors assert that their findings definitely establish the fact that the peripheral vessels play little or no part in hypertension. They do show, however, a definite relationship between small vessel sclerosis, indicated in the retinal arteries and high blood pressure. Nothing was developed from these observations to prove whether hypertension comes first and sclerosis second, or vice versa.

Pulsus Paradoxus Sign of Pericardial Effusion.—Gauchat and Katz offer a definition of pulsus paradoxus which restricts the phenomenon to a simple respiratory waxing and waning of the pulse found under ordinary clinical circumstances. Cases exhibiting the pulsus paradoxus are classified under two groups; the one associated with abnormal conditions of the respiratory system, and the other with pathologic affections of the pericardium. The suggestion is made, chiefly on the basis of experimental work, that the pulsus paradoxus associated with abnormal conditions of the respiratory tract is primarily caused by modifications of the intrapleural pressure variation. A clinical estimate of abnormal variations in intrapleural pressure may be obtained by analysis of the mechanism of breathing. Pulsus paradoxus was found in cases of mediastinopericarditis with thoracic adhesions. Clinical studies proved conclusively that effusion into the pericardial sac is directly responsible for a striking manifestation of the paradoxical pulse, as evidenced by the disappearance of the pulse phenomenon after tapping the sac. The essential factor required to produce this phenomenon appears to be the increase in intrapericardial tension. The unusual feature of pulsus paradoxus associated with pericardial effusion is its singular occurrence in patients presenting no clinical evidence of respiratory discomfort. The authors conclude that a pulsus paradoxus unaccompanied by exaggerated respiratory efforts may be regarded as a diagnostic sign of pericardial effusion.

Nature of Pulsus Paradoxus.—The facts established by experiments, notably (*a*) that intrapericardial pressure varies less during respiration when the sac is distended with fluid than it does normally, and (*b*) that with a distended sac intra-auricular pressure changes less during each respiratory cycle than the pressure in the entering veins, Katz and Gauchat think, favor the the following explanation of the paradoxical pulse during pericardial effusion: With the pericardium distended with fluid, not only is the flow of blood into the heart impeded, but the inflow also varies during inspiration and expiration, owing to the fact that the respiratory variations of intrathoracic pressure do not affect the intrapericardial and intracardiac pressures as much as those in the entering veins. This causes a smaller difference of pressure between the veins and heart during inspiration and allows less filling of each ventricle. Consequently, a paradoxical pulse probably appears in both the pulmonary and systemic circuits, but obviously the arterial pulsus paradoxus is due to the impaired inflow into the left ventricle.

Colloidal Gold and Mastic Tests.—In 1,498 spinal fluids examined by Wassermann, or 87.7 per cent. of the total number studied, there was agreement between the two tests. Both tests were negative in 1,260 fluids, while in 238 instances both were positive, in the majority of these cases the type of curve being the same. In only 12.3 per cent. (209 cases) of the 1,707 fluids studied was there complete disagreement between the two tests. This group included 157 fluids which gave positive mastic curves when the gold was negative and fifty-two in which the reverse was true. The clinical evidence and other abnormalities in the spinal fluid tend to confirm the value of the mastic test when disagreement between it and the gold test exists. The mastic test is recommended for adoption as an integral part of spinal fluid studies partly because the simplicity of preparation of the reagents and their stability and the ease of performance of the test render it suitable for small laboratories, and partly because its delicacy is equal to or slightly greater than that of the gold test.

Archives of Neurology and Psychiatry, Chicago

11: 257-384 (March) 1924

Electrically Excitable Region of Forebrain of Alligator. C. Bagley and C. P. Richter, Baltimore.—p. 257.
*Carbon Monoxid Asphyxia. H. S. Forbes, S. Cobb and F. Fremont-Smith, Boston.—p. 264.
*Physiologic Conditions in Insanity. S. D. Ludlum, Philadelphia.—p. 282.
*Cranial Vascularity in Relation to Intracranial Disease. C. A. Elsberg and C. W. Schwartz, New York.—p. 292.
*Von Recklinghausen's Disease: Endocrine Connection. B. R. Tucker, Richmond, Va.—p. 308.
*Morphologic Differentiation of Meningo-Encephalitis of Rabbits and Epidemic (Lethargic) Encephalitis. J. Oliver, San Francisco.—p. 321.
Optic Neuritis and Choked Disk in Influenza. K. A. Menninger, Topeka, Kan.—p. 328.

Carbon Monoxid Asphyxia.—Carbon monoxid inhalation was found by Forbes et al. to cause a rise in intracranial pressure in animals and in man. Three conditions were considered which might explain this rise: cerebral congestion, increased secretion of cerebrospinal fluid and cerebral edema. Cerebral congestion was the first observed and to it were due the sudden rise in pressure recorded by manometer. After prolonged asphyxia a gradual increase in brain bulk was observed through a trephine opening. Intravenous injec-

tion of hypertonic saline solution, which was known to cause absorption of water by the blood from the tissues, reduced the increased brain bulk and relieved compression symptoms. In one clinical case a high spinal fluid pressure was present, accompanied by stupor and severe headache. Immediate relief from symptoms followed an intravenous injection of hypertonic saline solution in this case.

Physiologic Conditions in Insanity.—A physiologic mechanism of insanity was sought for by Ludlum in 100 cases, but neither a special pathology nor a specific etiologic factor was found. The determining cause may be any type of irritant, such as bacterial or metabolic disturbances, sufficient to upset the physiologic equilibrium of the vagus or sympathetic nervous system. The vast majority of the cases are primarily somatic, the mental symptoms obscuring the origin of the somatic lesion. The prognosis is in direct proportion to the amount of the secondary changes in the nervous system induced by the primary focal lesion and the background.

Cranial Vascularity and Intracranial Disease.—Elsberg and Schwartz have not found unilateral enlarged diploic veins in any other of the many gliomas that have been verified by operation or necropsy; nor have they found unilateral enlargement of venous channels in metastatic tumors of the skull or brain. They have, therefore, arrived at the conclusion that if the diagnosis of brain tumor has been made, and unilateral enlarged diploic channels are found in the general area in which the tumor is suspected, there is considerable probability that the new growth is an endothelioma.

Endocrine Phases of von Recklinghausen's Disease.—Nine cases are cited by Tucker. There was no evidence of involvement of the pineal, thyroid, parathyroid or pancreas, and in only one case was increase of thymus tissue found. The pituitary was most frequently involved. In three cases, there were acromegaloid manifestations. In one case there was definite evidence of underactivity of the pituitary gland. The suprarenals were involved in a few of the cases; all except one case had excessive pigmentation. The blood pressure was low in all except two cases. Axillary, torsal and pubic hair was absent or scant in four cases and normal in five. Two cases showed a feminine type of pubic hair distribution, all other cases being apparently of normal type for the sex. Necropsy in one case showed degeneration of the suprarenal cortex and undeveloped ovaries.

Basal Ganglions Affected in Human Encephalitis.—In human encephalitis, Oliver says the lesions are most frequent in the basal ganglions, the locus niger and the medulla. They may occur in cases in which there is severe involvement in the cerebral cortex, and these are generally associated with involvement of the pia-arachnoid. In rabbit encephalitis, the distribution of the lesions is the exact reverse. The cerebral cortex is most frequently involved and the meninges as well in the great majority of cases. Rabbit encephalitis is further distinguished by the presence of an organism whose exact nature has not been determined.

Boston Medical and Surgical Journal

190: 441-486 (March 13) 1924

*Hemochromatosis. J. J. Dumphy, Worcester, Mass.—p. 441.
Alcoholic Abuse in Neurosyphilis. O. F. Kelly, Hathorne, Mass.—p. 444.
Medical Supervision of Athletics at Harvard. T. K. Richards, Boston.—p. 448.
Old Ventral Hernia. B. B. Cates, Knoxville, Tenn.—p. 449.
Artificial Arms. C. Bearse, Boston.—p. 451.
Duodenal Feeding in Treatment of Peptic Ulcers. M. Einhorn, New York.—p. 454.

Hemochromatosis.—In 4,507 necropsies, of which 1,057 were in children, there were ninety-four cases in which hemosiderin was found in the liver either alone or associated with hyalin. Of these, four were of sufficiently general distribution to be classed as hemochromatosis.

190: 487-532 (March 20) 1924

*Heart in Hyperthyroidism. W. Dameshek, Brookline, Mass.—p. 487.
Hygiene of Nervous System. J. W. Courtney, Boston.—p. 497.

Heart in Hyperthyroidism.—One hundred and forty-one cases, representing all the cases of hyperthyroidism in the medical service of the Peter Bent Brigham Hospital up to 1923, were studied with reference to cardiovascular symptoms. Ninety-five were considered to have essentially normal hearts. The characteristics of the heart normal for hyperthyroidism were studied. The subjective symptoms of palpitation and precordial pain were considered. Precordial pain occurred in 13.5 per cent. of the cases; in 10.5 per cent. of the normal, and in 22.5 per cent. of the damaged heart cases. The objective symptoms—such as loud, forceful first sound, systolic murmur, and thrill—were discussed. A thrill, presystolic or systolic, was noted in 30.5 per cent. of the cases. The objective vascular symptoms, such as pulsations of the peripheral vessels—carotids, femorals, branchials; "pistol shots" over them; Corrigan pulse; capillary pulse; and vasomotor instability, were mentioned. The question of blood pressure was discussed, and it was decided that in practically all cases there is a higher systolic pressure than normal, and a high pulse pressure. The average blood pressure was 146 mm. systolic, 72.5 mm. diastolic. In 25.5 per cent. of the cases, there was a hypertension (over 150 mm.). Forty patients were considered to have damaged hearts (myocarditis due to known causes excluded). These were divided into three classes: (1) The paroxysmal arrhythmia group, twelve cases. Of these, nine had auricular fibrillation and flutter; one, auricular tachycardia; average age, 39.5 years. (2) The block group, five cases; two, paroxysmal complete block; two, delayed conduction time; one, bundle branch block; average age, 36.4 years. (3) Heart failure group, twenty-three cases, with symptoms of heart failure only. Of these, ten had auricular fibrillation (permanent). Two types were distinguished: (*a*) the young full-blown cases with high metabolism; (*b*) the oldish, mild, atypical cases, usually with adenoma, and with relatively low metabolism. In six cases the heart was damaged by causes other than hyperthyroidism. Of these, three were cases of mitral stenosis; two were syphilitic aortic regurgitation; one was a case of severe hypertension, with a heightened metabolism discovered accidentally.

California and Western Medicine, San Francisco

22: 89-132 (March) 1924

Intestinal Protozoa. A. C. Reed and H. A. Wyckoff, San Francisco.—p. 89.
Effect of Structural Changes in Lumbar and Pelvic Regions on Sciatic Nerve. H. W. Chappel, Los Angeles.—p. 91.
Traumatic Synovitis of Knee. R. L. Dresel, San Francisco.—p. 93.
Case of Torula Infection. M. E. Bettin, Los Angeles.—p. 98.
Cancer of Esophagus. G. F. Helsley, San Francisco.—p. 102.
Relation of Growth to Rickets. S. Bowers, Los Angeles.—p. 104.

Journal of Laboratory and Clinical Medicine, St. Louis

9: 361-436 (March) 1924

Relation of Clinical Pathologist to Hospital. P. Hillkowitz, Denver.—p. 361.
Pathologist of Twentieth Century. W. C. MacCarty, Rochester, Minn.—p. 365.
Diagnostic Methods in Neurosyphilis. L. H. Cornwall, New York.—p. 369.
*Germanium Dioxid as Therapeutic Agent in Anemias of Childhood. H. W. Schmitz, New York.—p. 374.
*Pharmacologic Action of Potassium and of Sodium Salts When Administered Intravenously. D. Loeser and A. L. Konwiser, New York.—p. 385.
Measure of Urinary Sugar Following Mixed Carbohydrate Breakfast. H. Sharlit and W. G. Lyle, New York.—p. 390.
*Kottman Reaction in Insane. A. M. Saunders, Chicago.—p. 401.
Accuracy and Capacity of Platinum Loop. E. C. L. Miller, Richmond, Va.—p. 404.
*Laboratory Diagnosis in Throat Infections. I. Blood Plate. C. C. Young and M. Crooks, Lansing, Mich.—p. 409.

Germanium Dioxid in Anemia.—The therapeutic action of germanium dioxid was studied by Schmitz in thirteen unselected cases of anemia in childhood, five cases of anemia following malnutrition and acute infections, two cases accompanying acute nephritis, one case of cardiovascular disease, four cases of Gaucher's splenomegaly, and one case of von Jaksch's anemia. All the cases, with the exception of von Jaksch's anemia, showed a definite response by marked and sustained increases in the number of erythrocytes and in the hemoglobin content. The most notable results were obtained in the cases of anemia following malnutrition and acute infections. Some clinical improvement was evident in four cases. The germanium oxid was given by mouth in 0.2 per cent. aqueous solution. The dose given ranged from 30 to 60 mg. daily, or every other day, until from 300 to 1,000 mg. had been administered, based on from 100 to 150 mg. per kilogram of body weight.

Sodium and Potassium Salts Administered Intravenously.—Loeser and Konwiser show that potassium iodid has a comparatively high degree of toxicity, and that potassium is far more toxic intravenously than sodium. This increased toxicity of the potassium salts apparently is due to a depression of the heart and central nervous system, brought about by the potassium ion when introduced directly into the blood stream. These experiments also point to the marked difference between the pharmacologic action of a drug when given by mouth and when injected intravenously. When the effect of the iodid radical is desired, sodium iodid rather than potassium iodid should be used intravenously. When the potassium effect is desired, potassium iodid naturally is chosen. In that event the dosage must be regulated carefully.

Kottman Reaction in Insane.—Saunders has found the Kottman test especially suitable in the diagnosis of thyroid disturbances in the insane. The basal metabolism test is of practically no value in the insane, since there is no cooperation nor understanding. The Kottman test is a simple test which can be carried out readily and requires no elaborate equipment. If done accurately and interpreted properly, it promises to give a good index to thyroid activity.

Laboratory Diagnosis in Throat Infections.—A standard blood plate has been found by Young and Crooks to be a very satisfactory means of determining the etiologic organism in septic sore throat, thereby differentiating pseudomembranous throat infections from diphtheria. They give evidence to show that the wide distribution of hemolytic streptococci does not mask the diagnostic value of finding streptococci in practically pure culture; also that a pure culture of hemolytic streptococcus is indicative of pathogenicity. The blood plate is, therefore, recommended as an aid to laboratory diagnosis in throat infections.

Georgia Medical Association Journal, Atlanta

13: 1-42 (Jan.) 1924

Mistakes in Treatment of Acute Appendicitis. F. K. Boland, Atlanta.—p. 1.
Subacute Abdomen in Unrecognized Typhoid Fever. R. M. Harbin, Rome.—p. 4.
Genito-Urinary Surgery and Syphilis. E. G. Ballenger and O. F. Elder, Atlanta.—p. 5.
Elusiveness of Chronic Malarial Infection. G. M. Murray, Atlanta.—p. 8.
Rôle and Indiscriminate Use of Purgative. L. L. Whiddon, Ocilla.—p. 11.
Surgical Conditions Caused by Intestinal Parasites. W. A. Selman, Atlanta.—p. 14.
Roentgen-Ray Treatment in Skin Diseases. C. Swanson, Atlanta.—p. 16.
Eczema or Dermatitis. J. W. Jones, Atlanta.—p. 20.
Compound and Multiple Fractures of Lower Jaw. Case. J. W. Simmons, Brunswick.—p. 22.
Hydrocele of Canal of Nuck. W. R. Smith, Atlanta.—p. 23.
Extragenital Chancre Between Breasts. S. J. Sinkoe, Atlanta.—p. 24.

13: 43-84 (Feb.) 1924

Spirocheta Pallida in Osteomyelitis. Three Cases. G. F. Klugh, Atlanta.—p. 43.
Local Anesthesia in Nose and Throat Surgery. B. H. Minchew, Waycross.—p. 45.
Relation of Industrial Injuries to Disease. E. C. Thrash, Atlanta.—p. 46.
Treatment of Sprains. F. G. Hodgson, Atlanta.—p. 49.
*Review of 100 Cases of Congenital Syphilis. J. Yampolsky, Atlanta.—p. 50.
Industrial Medicine and Surgery. L. G. Hardman, Commerce.—p. 56.
Whiskey, Wood Alcohol and Eyesight. E. S. Osborne, Savannah.—p. 59.
Aneurysmal Varix of Femoral Artery and Vein Following Gunshot Wound. H. M. Branham, Brunswick.—p. 61.

Congenital Syphilis.—Yampolsky's analysis of 100 cases shows that the chief organs affected by syphilitic infections in children are: skin, mucous membranes, eyes, nose, bones and joints and the gastro-intestinal system. All other organs seem to be but little affected in childhood. Yampolsky urges that a routine Wassermann test be made on the mother and on the cord of the child.

Illinois Medical Journal, Oak Park

45: 77-152 (Feb.) 1924

Symptoms of Nephritis; Bearing on Treatment. O. H. P. Pepper, Philadelphia.—p. 93.
Postgraduate Teaching. D. D. Barr, Taylorville.—p. 97.
Brain Injuries in Adults. H. Jackson, Chicago.—p. 98.
Goiter. J. R. Yung. Terre Haute, Ind.—p. 101.
Epidemic Encephalitis an Independent Disease. P. Bassoe, Chicago.—p. 103.
Neurosurgical Conditions. E. Sachs, St. Louis.—p. 108.
Infant Feeding for General Practitioner. M. L. Blatt, Chicago.—p. 112.
Surgical Aspects of Chronic Pancreatitis. F. D. Moore, Chicago.—p. 114.
Annular Carcinoma of Colon. E. C. Kelly, Peoria.—p. 118.
Hospital: Its Problems. C. V. Decker, Toronto.—p. 119.
Edward Mead; Pioneer Neuropsychiatrist of Illinois. G. H. Weaver, Chicago.—p. 123.
Empyema. R. B. Bettman, Chicago.—p. 127.

45: 153-228 (March) 1924

Surgery vs. Roentgen Ray and Radium in Treatment of Tumors of Uterus. G. W. Crile, Cleveland.—p. 177.
Case of Endocarditis. M. E. Rose, Decatur.—p. 179.
Treatment of Cancer. B. B. Davis, Omaha.—p. 184.
Control of Diphtheria. R. V. Brokaw, Jacksonville.—p. 191.
General Rôle of Roentgen Rays in Treatment of Tumors of Uterus. U. V. Portmann, Cleveland.—p. 197.
Duodenal Ulcer and Associated Conditions. F. Deneen, Bloomington.—p. 200.
*Broken Glass Electrode in Bladder. C. H. Solomon and J. M. Glasser, Chicago.—p. 205.
Cretinism in Northwestern Illinois. G. W. Rice, Galena.—p. 206.
Two Hundred Tonsillectomies. R. D. Robinson, Chicago.—p. 210.
Getting a Medical Education in Gasoline Age. F. S. Igma.—p. 215.
*Mercurochrome Ointment for Vulvovaginitis. M. Dorne and I. F. Stein, Chicago.—p. 219.

Introduction of Glass Instruments into the Bladder Condemned.—Solomon and Glasser condemn the introduction of glass instruments into the urethra and bladder. In a case which they recently observed, a physician attempted to cure cicatricial strictures of the urethra with vacuum high frequency treatment. He introduced a glass electrode, the shape of a Van Buren sound, into the urethra and treated the patient in this manner for about two months. One day the distal 3 inches was missing and where the curved portion of the electrode had broken off, the edge was rough and ragged. The patient suffered no inconvenience from the presence of the broken piece of glass in his bladder. The roentgenogram showed this piece of glass lying transversely in the bladder. The piece of glass electrode was removed through a suprapubic cystotomy.

Mercurochrome in Vulvovaginitis.—Dorne and Stein have cured vulvovaginitis by daily injections of 1 per cent. mercurochrome ointment into the vagina. Gonorrheal vulvovaginitis was cured by this method in an average of 9.7 weeks. Nongonorrheal vulvovaginitis was cured in five weeks. In twenty cases, which they were able to follow, there were no recurrences in the year following treatment.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

23: 1-86 (Feb.) 1924

*Properties of Constituents of Witte's Peptone. J. J. Abel and E. M. K. Geiling, Baltimore.—p. 1.
Pharmacologic Action of Primary Albumose in Unanesthetized Dogs. E. M. K. Geiling and A. C. Kolls, Baltimore.—p. 29.
Active Principles of Peptone. A. J. Clark, London.—p. 45.
Drug Resistance of Trypanosomes; Arsenic. C. Voegtlin, H. A. Dyer, and D. W. Miller, Washington, D. C.—p. 55.

Constituents of Witte's Peptone.—Primary and secondary albumoses were prepared by Abel and Geiling from Witte's peptone by repeated salting out in acid and alkaline mediums with ammonium sulphate and precipitation with alcohol. A more toxic fraction not precipitable by ammonium sulphate, soluble in acidulated alcohol and containing histamin was also prepared. The albuminoses as thus prepared are not regarded as chemical entities; they are feebly toxic agents inasmuch as very large doses of them must be injected intravenously into dogs to induce cardiovascular and other symptoms.

Medicine, Baltimore

3: 1-98 (Feb.) 1924

Calorimetry in Medicine. W. S. McCann, Baltimore.—p. 1.

New York State Journal of Medicine, New York

24: 379-432 (March) 1924

*Method of Operative Attack for Central Lesions of Lower Jaw. J. C. Bloodgood, Baltimore.—p. 379.
Development of Accommodative Apparatus in Relation to Myopia and Presbyopia. G. W. Vandegrift, New York.—p. 385.
*Mechanical Considerations in Treatment of Meningitis. J. B. Ayer, Boston.—p. 389.
Narcotic Drug Addiction: Misconceptions and Suggestions. S. D. Hubbard, New York.—p. 392.
*Sore Throat Following Tonsillectomy. A. C. Howe and M. Schmidt, Brooklyn, N. Y.—p. 395.

Education of Public in Cancer Problem Fruitful.—Bloodgood is convinced that in these cases the educated public is seeking advice at shorter periods after the first appearance of the swelling. The huge tumors of the lower jaw are becoming rare. The smaller tumors are on the increase.

Drainage Routes in Meningeal Infections.—The cerebrospinal fluid pathways in relation to the course of meningeal infection, which underly the treatment of all forms of meningeal infection, are discussed by Ayer. Routes other than the lumbar which are of proved value in treatment are: (1) ventricle puncture; (2) cortical subarachnoid puncture; (3) drainage of the cisterna magna.

Syphilitic Sore Throat Following Tonsillectomy.—Three cases of chronic sore throat following tonsillectomy are reported by Howe and Schmidt. All of these cleared up with specific treatment when local measures failed. The authors emphasize that persistent sore throat with no apparent local lesion should always suggest a syphilitic origin.

Northwest Medicine, Seattle

23: 53-102 (Feb.) 1924

Syphilis. O. S. Ormsby, Chicago.—p. 53.
Prostatic Urethra. R. F. Hain, Seattle, Wash.—p. 58.
*Paget's Disease Involving Skull. G. W. Swift, Seattle, Wash.—p. 64.
*Cerebral Thrombophlebitis Complicating Femoral Thrombophlebitis. F. Epplen, Spokane, Wash.—p. 69.
*Functional Tests for Kidney Efficiency in Nephritis. W. T. Longcope, Baltimore.—p. 71.
Functional Tests of Kidney. E. D. Hitchcock, Great Falls, Mont.—p. 77.
Diagnostic Pitfalls in Spheno-Ethmoidal Borderland. R. A. Fenton, Portland, Ore.—p. 79.
Postoperative Treatment of Maxillary Sinus by Ionizing of Zinc. M. C. Fox, Portland, Ore.—p. 82.
Vertigo; Otologic Study. J. I. Mershon, Marshfield, Ore.—p. 84.

Paget's Disease of Skull.—In one of Swift's cases, the condition of fibrous replacement of the bone evidently had occurred within the cranium (the inner table) until the cavity was so contracted that the symptoms of a brain tumor were present. In the second case, there was a stasis of the venous blood which is drained by the facial veins to the nasal vein, ciliary veins, ophthalmic veins and the cavernous sinus; there was no evidence in the eyes of intracranial pressure, but there was a failure of closure of the sutures of the frontal bone. The roentgen ray showed frontal and occipital bones thickened to three times the normal. The third patient had had a severe trifacial neuralgia for one year and had suffered from a nasal discharge for about the same length of time. The act of chewing caused a sensation of pain in the face, and a violent attack of neuralgia would ensue. On puncturing the nasal wall of the sinus and irrigating, no mucopus was found, but the whole cavity seemed to be a cheeselike mass. The needle met with slight resistance, no matter where it was placed. The roentgen ray established a diagnosis of Paget's disease of the skull.

Metastatic Cerebral Thrombophlebitis.—Epplen believes that in his case a thrombophlebitis was metastatic. The patient gave a rheumatic history and had an endocarditis. She had had two attacks of pleurisy, one in the right lung, the other in the left, following a painful swelling of the leg. These were interpreted as pulmonary emboli, having their origin in a thrombophlebitis in the femoral or saphenous veins. Gradually the infectious process in one leg resolved only to spread to the opposite leg during the three weeks of observation. The following five weeks were characterized by a moderate temperature elevation, and occasional pains in the chest and legs, culminating in what appeaerd to be a fairly complete recovery nearly two months after the onset of the first thrombophlebitis. However, three days later the patient was seized with a sudden severe convulsion. A fundus examination showed some distention of the veins. In four days, she was up and about again, apparently normal. Two and a half weeks later, there was a recurrence of the convulsions, typically jacksonian in type, beginning in the right arm and right side of the face, lasting about three minutes and followed by profound stupor. Convulsions recurring every one to three hours were of the same character. Forty-eight hours after the second convulsion, consent was obtained for an operation on the basis of a diagnosis of brain abscess. The patient went into collapse after the skull flap had been turned down, and the operation was discontinued.

Renal Function Tests.—Longcope regards no one kidney function test, or scarcely any combination of them, indicative of nephritis. In the acute and subacute forms of the disease they need rarely be employed for diagnosis. For prognosis, however, as an indication for treatment and to measure the degree of recovery, the phenolsulphonephthalein excretion and blood chemistry may be used to good advantage in acute nephritis. A study of the blood chemistry furnishes a method which sometimes gives further assistance in diagnosis, but is of much more value for prognosis and the control of therapy. When uremia is pending or when the patient is in coma, a study of the blood chemistry is one of the most important adjuvants in differentiating uremia of nephritic origin from other forms of convulsive seizures and coma with which it is often confused.

Surgery, Gynecology and Obstetrics, Chicago

38: 287-430 (March) 1924

*Endometrial Implants in Peritoneal Cacity; Their Relation to Certain Ovarian Tumors. J. A. Sampson, Albany, N. Y.—p. 287.
*Coordination of Human Vegetative Functions. W. J. Mayo, Rochester, Minn.—p. 312.
*Seminal Vesiculitis After Prostatectomy. M. L. Boyd, Atlanta, Ga.—p. 317.
*Pattern of Weakness of Hand in Ulnar and Median Nerve Lesions. L. J. Pollock, Chicago.—p. 323.
*Surgical Treatment of Lateral Cervical Fistula. F. Christopher, Chicago.—p. 329.
*Malignant Tumor of Parotid. C. A. Porter and E. D. Churchill, Boston.—p. 336.
Etiology of Gallstones in Women. V. L. Schrager, Chicago.—p. 344.
Interposition Operation in Cystocele and Prolapse of Uterus. C. J. Miller, New Orleans.—p. 348.
Hemorrhage. G. N. Stewart, Cleveland.—p. 352.
Postoperative Hemorrhage. F. N. G. Starr, Toronto.—p. 356.
Hemorrhage from Stomach. A. D. Bevan, Chicago.—p. 358.
Hemorrhage in Genito-Urinary Tract. W. E. Lower, Cleveland.—p. 360.
Relation of Blood-Coagulation Time to Postoperative Hemorrhage. S. M. Feinberg, Chicago.—p. 363.
*Multiple Skeletal Metastases from Cancer of Breast. J. E. Thompson and V. H. Keiller, Galveston, Tex.—p. 367.
Pathology of Appendices Epiploica. Four Cases. P. Klingenstein, New York.—p. 376.
*Effects of Radium Rays on Ovary. H. B. Matthews, Brooklyn.—p. 383.
*Ovarian Implantation. W. L. Estes, Bethlehem, Pa.—p. 394.
*Treatment of Carcinoma of Breast. H. A. Kelly and R. E. Fricke, Baltimore.—p. 399.
Roentgenology of Male Urethra. V. G. Burden, Rochester, Minn.—p. 403.
Radium in Treatment of Vascular Nevi. F. E. Simpsom, Chicago.—p. 407.
Head Clamp Stethoscope Holder. E. M. Hartlett, Chicago.—p. 411.
*Suprapubic Cystotomy in Renal Tuberculosis. N. P. Rathbun, Brooklyn.—p. 412.

Endometrial Implants in Peritoneal Cavity.—The implantation of benign endometrial tissue on the surface of the various structures in the pelvis was observed by Sampson in sixty-four of 296 abdominal operations for pelvic conditions in one year. The implants, wherever situated, may invade the underlying tissue on which they develop, spread over the surface of the same, or invade other structures in contact with them. Sampson urges that a patient in whom cancer of the body of the uterus is suspected should be examined with great care and tenderness. The diagnostic curettage should be employed only in doubtful cases or poor operative risks, and if used should be done very gently. Radium should not be used, as the insertion of the capsule containing the radium acts as the plunger of a piston syringe, forcing contents of the uterine cavity into the tubes. Abdominal hysterectomy, with the least possible manipulation of the uterus, and the closure of the channels through which material may escape from the uterus into the field of operation, offers the best chance for a permanent cure. The fimbriated ends of the fallopian tubes should first be ligated; the ovarian vessels, round ligaments and uterine vessels should be doubly ligated, cutting between the ligatures; the vagina should be clamped below the cervix and cleansed carefully before severing the vagina below the clamp and removing the uterus.

Coordination of Human Vegetative Functions.—Mayo closes his paper with this query: "Are not many, perhaps most, of these unstable nervous conditions, so-called neuroses, which are exploited by the cults and quackeries, the results of an attempt of the newer part of the central nervous system to take control of previously established coordinating functions,

unrighteous attempts at control of the sympathetic ganglions, the internal secretions, and the primitive nonstriated muscle by an unbalanced recent development of the forebrain?"

Seminal Vesiculitis After Prostatectomy.—Boyd is convinced that in practically every case of epididymitis there is an accompanying infection of the seminal vesicle which in most instances should receive some treatment other than that usually employed for the epididymitis occurring after prostatectomy.

Pattern of Weakness of Hand in Ulnar and Median Nerve Lesions.—It is emphasized by Pollock that recovering or incomplete lesions of the median nerve may almost regularly be determined by sensory examination, whereas in ulnar lesions this rule does not apply, contrary to the generally accepted statement that signs of sensory regeneration are first to appear.

Lateral Cervical Fistula.—Christopher reports one case in which he operated by the von Hacker method and obtained a successful result.

Adenosarcoma of Parotid.—The case presented by Porter and Churchill is that of an adenosarcoma of the parotid region in which during the course of numerous recurrences the preponderance of cells which had undergone differentiation to the basal cell and hair matrix type caused confusion regarding the proper classification of the tumor, and led to a lack of appreciation of the fundamentally malignant nature until it demonstrated itself by general metastases. At the end of fourteen and one-half years, two years after the last operation, there is no evidence of local recurrence, but the left lung shows extensive involvement by metastasis of the tumor. During the course of the disease and the many re-entries to the hospital, microscopic studies of the recurrent nodules of the tumor yielded different pathologic diagnoses, viz., cancer, cylindroma, sebaceous adenoma, basal cell carcinoma and epidermoid carcinoma of the hair matrix type. The tumor of the lung is recognized as metastatic adenocarcinoma. In the records, the tumor has been classified clinically as carcinoma of the parotid, face, neck, ear and temporal region, as epithelioma and as a mixed tumor.

Multiple Skeletal Metastases from Breast Cancer.—Thompson and Keiller found an enlargement of the left breast, which the patient insisted had been present since she was 10 years of age and that it was due to the traumatism of carrying a bag of cotton over the left shoulder. The long duration of the breast tumor and the youth of the patient (she was then only 28 years of age) seemed to rule out the diagnosis of malignant disease of the breast. Nine months later, after ulceration of the breast had appeared, there was no doubt of malignancy; even at this late date, however, there were no palpable axillary deposits, and the supposition that the tumor was an extension from the underlying ribs seemed well founded. The left breast was removed partly by the knife and partly by cautery. No attempt was made to clean out the axilla or infraclavicular areas because of the possibility that the bone tumors which had since appeared were metastatic from the breast, and the futility of a complete breast operation in the presence of so much pathology elsewhere. The patient died three months later. The necropsy showed metastases in the lungs, liver, lymph nodes, cerebellum, and in nearly every bone in the body.

Use of Radium by Gynecologists.—Matthews sums up his views as follows: The employment of radium irradiation in affections of the female reproductive system should remain in the hands of those gynecologists and obstetricians who have had special training in radium therapy, for the indiscriminate use of this agent reflects to our discredit.

Ovarian Implantation Preserves Function.—Estes discusses the preservation of ovarian function after operation for disease of the pelvic viscera by means of implantation of an ovary on the horn of the uterus. This may be followed by menstruation, which is usually normal in character; pregnancy may follow. There may be pain in and about the implanted ovary, or, rarely, the ovary may become cystic and require subsequent removal.

Irradiation and Surgery for Breast Cancer.—Aggressive radium therapy complementary to surgery, Kelly and Fricke assert, offers the best prognosis when dealing with malignancy of the breast. The technic of gamma-ray treatment has been difficult but is improving from year to year, just as surgical methods have progressed in the past. Results as yet are not brilliant, as the radiologist is apt to be used as the final court of appeal called in the most hopeless cases, often where every other line has failed and only too often where unscrupulous methods have deprived the patient of all possible hope of life or even relief.

Suprapubic Cystotomy in Kidney Tuberculosis.—Rathbun asserts that in cases of renal tuberculosis in which it is difficult or impossible to catheterize the ureters in the usual manner, suprapubic cystotomy is the method of choice for the purpose of making a complete diagnosis. Because of certain therapeutic advantages made available by the procedure, increased experience may broaden the indications.

Tennessee State Medical Association Journal, Nashville

16: 343-379 (Feb.) 1924

Abnormal Cardiac Rhythms. G. D. Lequire, Maryville.—p. 343.
Vertigo. R. G. Reaves, Knoxville.—p. 353.
Surgical Diagnosis. E. D. Newell, Chattanooga.—p. 356.
Pilonidal Cyst or Postanal Dimple. D. R. Pickens, Nashville.—p. 363.
Ethmoiditis in Children. P. M. Farrington, Memphis.—p. 365.
Vertigo and Otologist. L. Levy, Memphis.—p. 367.

16: 381-416 (March) 1924

Physicians for Rural Districts. L. E. Burch, Nashville.—p. 395.
Lesions of Uveal Tract and Diseases of Nasal Accessory Sinuses. H. Ezell, Nashville.—p. 397.
Knee Joint Injuries. R. W. Billington, Nashville.—p. 404.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 413-454 (March 8) 1924

Synthetic Therapeutic Agents. W. J. Pope.—p. 413.
*Rice in Relation to Beriberi in India. R. McCarrison.—p. 414.
*Hypertonic Saline Solutions in Increased Intracranial Tension. H. Cohen.—p. 420.
Systemic Poisoning by Hair Dye. H. W. Nott.—p. 421.
*Erythema Nodosum with Tuberculous Bacillemia. J. Watt and E. S. Stubbs.—p. 422.
*Erythredema Polyneuritica. J. V. C. Braithwaite and A. V. Pegge.—p. 423.
Diathermy in Lupus of Soft Palate and Fauces. W. J. Harrison.—p. 423.
Retropharyngeal Lipoma. T. J. Faulder.—p. 424.
Decreasing Dosage of Insulin in Diabetes. E. Browning.—p. 424.
*Postmortem Changes in Fundus Oculi. E. Bulmer.—p. 424.

Rice in Relation to Beriberi.—Whether the poison which imparts to polyneuritis columbarum the characteristics of true beriberi is extrinsic or intrinsic, McCarrison is of the opinion that such a poison exists; and that it is peculiar to certain places or is evolved in persons residing or who have resided for considerable periods in certain places; and that its operation is rendered possible by the insufficient intake of a certain vitamin or vitamins in a diet excessively rich in starch and deficient in suitable proteins. The conclusion reached by McCarrison in 1919, that vitamin deficiency is rarely the sole agent responsible for the causation of beriberi, he says, has been strengthened by investigations in the last five years.

Saline Solution in Cases of Cerebral Tumor.—Six cases of inoperable cerebral tumor were treated by Cohen with 20 c.c. of a 30 per cent. sodium chlorid solution injected intravenously; within from five to ten minutes there was, after a preliminary feeling of burning in the head, an almost complete cessation of headache. The period of freedom lasted from ten hours to two days, but in most cases an intravenous injection every third day kept the patient free from headache. Two cases of acute meningovascular syphilis showed similar relief for a shorter period (from six to twelve hours), although the headache was much less severe for a much longer period than prior to injection. The saline solution causes local pain where it comes in contact with the tissues. To avoid this, the needle of the syringe should be washed with sterile water and a little of this drawn up into the syringe before injection. On one occasion Cohen feared that

the saline solution had caused thrombosis at the site of injection (median basilic vein). This, coupled with the fact that in some cases there is difficulty in finding a suitable vein, led to an investigation of the effect of salt given by the mouth. From three to six 5 grain tablets of sodium chlorid with a keratin coating were given to the patient, three times a day. Some relief was obtained, but much less than with intravenous injections.

Erythema Nodosum with Tuberculous Bacillemia.—The two cases reported by Watt and Stubbs were striking because both occurred in a small mining village within a few months of each other. Both showed extensive tuberculous infiltration of the lungs, and one patient, a boy, has since died of tuberculous meningitis. This boy had been in intimate daily personal contact with an aunt who has since died of pulmonary tuberculosis. Both cases, too, had a long febrile illness marked by pallor, which could only be accounted for by an extensive infection.

Erythredema Polyneuritica.—The case reported by Braithwaite and Pegge corresponds very closely to those described by Paterson and Greenfield. The only differences were the absence of any demonstrable sensory loss and of any distinctive odor.

Necropsy Findings in Fundus Oculi.—Bulmer noted some postmortem changes in the fundus oculi not hitherto described. The change consists in an appearance of segmentation of the vascular contents resembling chains of anthrax bacilli with the interbacillary intervals somewhat increased. Later, the retina becomes studded with indefinite plaques of a furry appearance. Ten pairs of eyes were examined. In from one minute to a minute and a half after death the change was visible in a few of the vessels at the periphery, and throughout seemed to be more marked in the veins; in from five to seven minutes the vessels on the disk had become involved, and in ten minutes the changes were present in nearly all the vessels; in about fifteen minutes the edematous appearance of the retina was evident, and the image became gradually more blurred owing to this fact, and to the distortion by cooling of the cornea. In about half an hour after death condensation of moisture on the cornea rendered further observation impossible. That the change is not antemortem was demonstrated in three comatose cases examined from fifteen to five minutes before death.

Journal of Physiology, London

58: 259-372 (March) 1924

Chelonian Respiration (Tortoise). T. Lunsden.—p. 259.
Mutual Influence of Secretory Stimuli in Submaxillary Gland. E. E. Goldenberg.—p. 267.
Peculiarities of Sympathetic Innervation of Submaxillary Gland. P. M. Jurist and B. A. Rabinovich.—p. 274.
Secretion as Factor in Elimination of Bird's Kidney. E. B. Mayrs.—p. 276.
Variations in Sensibility to Pressure Pain Caused by Nerve Stimulation. R. C. Shawe.—p. 288.
*Interrelation of Parathyroids, Suprarenals and Pancreas. G. A. Clark.—p. 294.
*Metabolism of Salivary Glands. G. V. Anrep and H. N. Khan.—p. 302.
Nerve Fiber Constitution of Nerves of Eye. M. Nakanishi.—p. 310.
Maximum Realizable Work of Flexors of Elbow. T. E. Hansen and J. Linhard.—p. 314.
Variation of Capillary Diameter and Antidromic Action in Frog. S. Oinuma.—p. 318.
*Blood Phosphate After Insulin Convulsions. L. B. Winter and W. Smith.—p. 327.
Effect of Fatigue on Relation Between Work and Speed. A. V. Hill, C. N. H. Long and H. Lupton.—p. 334.
*Localization of Excretion in Uriniferous Tubule. II. J. M. O'Connor and J. A. McGrath.—p. 338.
Effect of Insulin on Oxygen and Carbon Dioxid Tensions in Air Between Skin and Muscles. J. A. Campbell and H. W. Dudley.—p. 348.
Muscle Activity. II. Influence of Speed on Mechanical Efficiency. E. P. Cathcart, D. T. Richardson and W. Campbell.—p. 355.
*Mitral Insufficiency. D. J. Barry.—p. 362.

Factor in Etiology of Diabetes.—Further evidence of sympathetic and parasympathetic stimulation by guanidin is given by Clark. Guanidin appears to exert an action on the organism lasting at least from ten to twelve weeks, which alters the balance between glycogenolysis and the production of insulin. The antagonism between calcium and guanidin is illustrated. The results of parathyroid administration appear to show that, when given with guanidin, the extract augments the hypoglycemia, but, given some time before, delays its onset. A possible factor in the etiology of diabetes is suggested.

Metabolism of Salivary Glands.—The experiments performed by Anrep and Khan do not support the theory that the sympathetic nerve has any "trophic" influence on the submaxillary gland under normal conditions.

Blood Phosphate After Insulin Convulsions.—Variations in the inorganic blood phosphate after insulin convulsions in rabbits have been studied by Winter and Smith. Rabbits have been recovered from convulsions by means of glucose, epinephrin, epinephrin and thyroid extract together, and pituitary extract. After epinephrin the inorganic phosphate usually regains the normal level quickly, but falls again. After pituitary extract the effect is variable. After glucose the normal value is not regained for a considerable period.

Localization of Excretion in Uriniferous Tubule.—In continuation of previous experiments, observations were made by O'Connor and McGrath on the volume of urine expelled after an intravascular injection before a change in the urine occurred. The main observations were made on the alteration of the electrical conductivity of the urine after intra-arterial injections of various solutions, and on stimulation of the vagus. Further experiments were made on the volume of urine expelled before injected indigocarmin or iodid or urea could be detected. When these volumes are plotted against the rate of flow of the urine prevailing at the moment of injection, the figures fall into groups of which an upper and lower are distinct and an intermediate one probable. Volume determinations of the ureter and pelvis permit the identification of the lower group with the distal convoluted tubule and the upper group with the glomerulus. The positions of the indigo and iodid observations on the graph point to the excretion point of these substances varying in different animals, indigocarmine being usually excreted by the tubule. Observations on urea and uric acid point to these substances being usually excreted by the tubule.

Mitral Insufficiency.—Records of mitral regurgitations in man made by Barry offer evidence of leakage occurring in the early or so-called presphygmic period of systole. Records of artificial lesions in the dog afford similar evidence. The volume of fluid regurgitated is in some measure accountable for the time in which back flow occurs, and this is especially so when the difference between auricular and ventricular pressures is marked. Some evidence is provided in support of the view that the auriculoventricular valves are finally sealed as a result of the rise of ventricular pressure. A mechanical explanation of the condition of pulsus alternans by alternating efficiency of the mitral valve is suggested without prejudice to the view that it may occur from inherent fluctuation of muscular function.

Journal of State Medicine, London

32: 101-150 (March) 1924

Control of Tuberculosis of Lungs. F. R. Walters.—p. 117.
*Therapeutic Immunization. W. M. Crofton.—p. 125.
Disposal of Dead; Cremation. H. T. Herring.—p. 133.

Therapeutic Immunization.—The belief that active immunization is an unsuitable procedure in acute infections such as septicemia or pyemia; that once the blood stream is involved the only hope is the use of passive immunization with serums, Crofton regards as a fallacy. He asserts that active immunization gives most dramatic results in the most acute septicemias, in puerperal fever, wound infections, acute peritonitis, pneumonia, meningitis, and acute pyelonephritis. Crofton prophesies the gradual disappearance of passive immunization. If, however, the resistance of endothelial cells of the blood vessels is overcome and the tissues are no longer protected and capable of response, as in overwhelming hemorrhagic types of infection or toward the end of a chronic infection, then active immunization is impossible.

Journal of Tropical Medicine and Hygiene, London

27: 49-60 (March 1) 1924

Medical Mycology. A. Castellani.—p. 49.

Lancet, London

1: 529-580 (March 15) 1924

*Relationship of Hemolytic Disorders to Pernicious Anemia. P. N. Panton, A. G. Maitland-Jones and G. Riddoch.—p. 529.
Metabolic Changes Associated with Roentgen-Ray and Radium Treatment. E. C. Dodds and J. H. D. Webster.—p. 533.
*Experimental and Therapeutic Alterations of Human Tissue Alkalinity. J. B. S. Haldane.—p. 537.
*Hydrophobia in Egypt. R. V. Dolbey and A. E. Katib.—p. 538.
*Malaria Therapy in General Paralysis of Insane. A. R. Grant and J. D. Silverston.—p. 540.

Relationship of Hemolytic Disorders to Pernicious Anemia.—Five groups of cases are reviewed by Panton et al. as examples of obscure hemolytic disorders related to pernicious anemia. In the first group, the main features are the blood changes of pernicious anemia, jaundice and hemoglobinuria. The second group consists of two cases of arseniuretted hydrogen gas poisoning. In the third group is a case of severe internal hemolysis of thirteen years' duration in which the broken down blood pigment instead of being deposited in the internal viscera as in pernicious anemia, or voided in the urine, was stored in part in the skin. The syndorme exemplified by this patient appears to be of great rarity and unlike that of hemochromatosis associated with diabetes. The fourth group comprises a variety of conditions usually classified under the term of "paroxysmal hemoglobinuria." In the one case of the fifth group, the diagnosis appears to rest between pernicious anemia and acholuric jaundice. The most striking feature in the case and the one which raises any doubt in the question of diagnosis is the occurrence of three other examples of the same condition in the family. This raises a question: First, the familial type may be due to a different cause. This view receives some support from a consideration of the case described, in that certain features usually absent in pernicious anemia were present, jaundice, enlargement of the spleen sufficient to suggest splenectomy, advanced cord changes and a very chronic course. Any one of these features may be present in pernicious anemia, but none of them commonly, and the combination of them added to the familial history suggests a different etiology in the familial variety. Second, there may be a satisfactory etiologic explanation for the occurrence of the disorder either in a single individual or in more than one member of the same family. This presupposes as its essential basis some persistent alteration, congenital or acquired, in the bacterial environment. Two processes are of great importance in determining the clinical picture: (1) the main incidence of the lesion; (2) rapidity of the pathologic process.

Alterations of Tissue Alkalinity.—The action and therapeutic use of ammonium chlorid are discussed by Haldane. Calcium chlorid has been found a valuable dehydrating agent in certain types of dropsy and anemia, and it seems likely to Haldane that ammonium chlorid might have a similar effect without producing diarrhea and malaise. It also appears that the therapy of acidosis should include a liberal supply of potassium and phosphates in cases where the kidneys have been in a position to excrete them.

Treatment of Hydrophobia in Egypt.—In Egypt, the treatment of a bite is, first, by cautery or excision or by caustics; then, until the animal is definitely proved to be nonrabid, by emulsions of dried cords of rabbits daily for twenty-one injections. If the bite is a severely lacerated one or a definite wolf bite, or situated on the face, the treatment given is by serum as well as by glycerin emulsions. Treatment of the symptoms is by scopolamin and morphin; then, when violence is controlled, the treatment adopted for the disease itself is the intravenous injection of neo-arsphenamin or tartar emetic.

Malaria Therapy in General Paralysis.—In forty cases of general paralysis treated by inoculation with malaria, sixteen of which received, in addition, a course of arsphenamin, observations were made on the findings in the cerebrospinal fluid and blood. Combined improvement in the cell count, protein content and Wassermann reaction of the cerebrospinal fluid took place in 18.7 per cent., and with the colloidal gold test in 6.2 per cent. of the whole series. The Wassermann reactions of the cerebrospinal fluid and the blood serum were negative in 25 and 18.7 per cent., respectively, concurrently in both in 5 per cent.

Medical Journal of Australia, Sydney

1: 129-152 (Feb. 9) 1924

*Incidence of Various Serologic Types of Pneumococci in Pneumonia of Childhood: Serum Therapy. R. Webster.—p. 129.
Gumma of Spinous and Transverse Processes of First Thoracic Vertebra. T. A. B. Harris.—p. 141.
*Extensive Sloughing During Labor. H. A. Ridler.—p. 142.

1: 153-176 (Feb. 16) 1924

Orthopedics in America. C. N. Smith.—p. 153.
Protein Sensitization. D. L. Barlow.—p. 155.
Five Deaths Under Anesthesia. C. Hall.—p. 158.
Tumor of Cauda Equina. C. G. McDonald.—p. 160.
Case of Acute Hydramnios Simulating Acute Abdominal Emergency. T. Farranridge.—p. 161.
Three Cases of Endocrine Interest. G. P. U. Prior.—p. 162.

SUPPLEMENT

Fear in Health and Disease. J. Macpherson.—p. 13.
Diagnosis of Early Pulmonary Tuberculosis. S. A. Smith.—p. 23.
Early Diagnosis of Pulmonary Tuberculosis from Radiologic Standpoint. A. T. H. Nisbet.—p. 27.
Early Diagnosis of Pulmonary Tuberculosis. H. M. James.—p. 29.
Tuberculin Treatment. L. B. Elwell.—p. 33.
Lethargic Encephalitis. W. M. Macdonald.—p. 36.

Serologic Types of Pneumococci in Pneumonia.—From the study made by Webster it appears that the distribution of types of pneumococci in labor pneumonia in children follows closely that observed for adults in the same center. While Type I pneumococci occur in Australia with about the same frequency as in England and America, the Type II group is very small in Australia and the heterogeneous group correspondingly large. Many highly pathogenic strains were found to belong to the heterogeneous group. The Australian Type IV was identified three times among forty-six strains examined. Striking seasonal variations in regard to the incidence of Type I pneumococcus is demonstrated. The differentiation between pneumococci and streptococci and agglutination tests on the former are very satisfactorily carried out in broth cultures. Routine serum treatment is not considered necessary in lobar pneumonia of childhood, but in seven selected children to whom monovalent Type I serum was administered early in the disease, the crisis occurred within twenty-four hours of injection in five children, and followed immediately on a second injection in the other two.

Extensive Sloughing During Labor.—Ridler did not see this patient until after she had been in labor eight days. At the vulva a large caput was projecting for some distance and could not be pushed up. The head was perforated and crushed and with great difficulty a large and swollen infant was delivered. During this procedure a large quantity of offensive gas escaped from the uterus. After the delivery no fundus uteri could be felt. A hand was, therefore, inserted into the uterus; the placenta was found lying free and was removed. No postpartum hemorrhage occurred. The patient was desperately ill for some weeks. The sloughing of the soft parts on account of the prolonged pressure was extensive. A rectovesicovaginal fistula resulted. The bladder wall in the region of the trigone and close to the ureteric orifices is missing. The entire cervix is absent and the opening into the rectum is extensive, with part of the external sphincter muscle missing.

Annales de l'Institut Pasteur, Paris

38: 81-178 (Feb.) 1924

*Series of "Bayer 205." Fourneau et al.—p. 81.
*"Coli Test" for Serum Protease. Wollman et al.—p. 115.
Genital Herpes. G. Blanc and J. Caminopetros.—p. 152.
The Skin in Anthrax Immunity. H. Plotz.—p. 169.

Series of "Bayer 205."—Fourneau, Tréfouel and Vallée believe that they have succeeded in the synthesis of a compound ("309") identical with "Bayer 205." They publish its formula, and their research on the toxicity and curative value of similar compounds of urea with amino-benzoyl-amino-naphthalin acids.

"Coli Test" for Serum Protease.—Wollman and his co-workers studied the proteolytic ferments of serum with their "coli reaction." They used Wollman's method, based on the observation that colon bacilli produced indol only when the protein present contained tryptophan and had been split either by chemical means or by proteolytic ferments (other bacilli). The results were not in accord with those obtained by other investigators with Abderhalden's method

Annales des Maladies Vénériennes, Paris

19: 81-160 (Feb.) 1924

General Pathology of Syphilis. J. Golay and L. Weyl.—p. 81.
The Bordet-Wassermann Test. H. Schwers.—p. 88.
*Grave Arsphenamin Accidents. Evrard.—p. 97.
A Case of Gonorrheal Sciatica. B. Valvérde.—p. 101.
Postgonorrheal Atrophy of Testis. P. Kolopp.—p. 106.
Dental Gigantism. S. Montpellier.—p. 111.
*Prostatic Azoospermia. A. Catzeflis.—p. 113.

Grave Arsphenamin Accidents.—Evrard records the cases of two women who after having received the fourth injection of 0.6 gm. of neo-arsphenamin developed various grave hemorrhages. In one, the peripheral and central nervous systems were also involved. Both had an enlarged liver, so the hemotoxic influence could not be checked.

Azoospermia Traceable to the Prostate.—Catzeflis reports a case in which the enlarged prostate caused obstruction of the ejaculatory ducts. A course of autogenous vaccine therapy, large lavages and massage reduced the size of the prostate, and evidently rendered the ducts permeable. Ten spermatozoa were found at the second examination.

Archives des Maladies de l'App. Digestif, Paris

14: 1-100 (Jan.) 1924

Normal Anatomy of the Sympathetic. Laignel-Lavastine.—p. 1.
*Organic Acids in Stools. Roux and Goiffon.—p. 46.
Intestinal Heterotopy. F. Ramond and A. Hirschberg.—p. 59.
Abdominal Wall and Diaphragm in Ptosis. R. Glenard.—p. 66.
*Duodenal Migraine. P. Duval and J.-C. Roux.—p. 74.

Organic Acids in Fermentation in Stools.—Roux and Goiffon hold that the quantity of organic acids determines the intestinal flora. While normal fermentation causes acid by-products, the bacteria of putrefaction thrive in an alkaline medium. Thus by comparing the organic acids with the ammonia in the stool, easy and reliable information can be obtained as to the functional balance of the intestine.

Duodenal Migraine.—Duval and Roux report three cases of duodenal stenosis with periodical transient migraine. They assume a neurotoxic origin, as after surgical correction of the stenosis, complete recovery followed in all the cases.

Archives des Maladies du Cœur, etc., Paris

17: 65-128 (Feb.) 1924

*Vaquez' Disease. Letulle and J. Yacoel.—p. 65.
Case of Nodal Rhythm. J. T. Peters.—p. 77.
"Shadows of Nuclei." F. Bezançon and S. I. De Jong.—p. 85.
Tachycardia in Volleys. L. Gallavardin and A. Dumas.—p. 87.
Hemorrhagic Syndromes. J. Sabrazès.—p. 91.

Vaquez' Disease.—Letulle and Yacoel found numerous normoblasts in Malpighi's corpuscles in the spleen of a case of polyglobulia.

Archives Médicales Belges, Liége

77: 1-94 (Jan.) 1924

Sequelae of War Gases. P. Spehl.—p. 1.
*Remote Effects of War Gas. L. Dautrebande.—p. 16.
Symmetrical Osteomas of Upper Jaw. Lambert.—p. 27.

Remote Effects of War Gas Poisoning.—Dautrebande ascribes the asphyxiating action of war gas to pulmonary edema, preventing normal oxygenation of the blood. This anoxemia sets up a permanent vicious circle between the tissue alkalosis and the dyspnea, with high respiratory rate. This situation is a dangerous one, especially in view of the possibility of even slight infections, which may take a fatal course in these war-gassed subjects.

Archives de Médecine des Enfants, Paris

27: 129-192 (March) 1924

Epidemic Meningitis. K. Lewkowicz.—p. 129. Cont'd.
*A Preventive Center. R. Debré et al.—p. 157.
A Model Example of Child Welfare Work. J. Comby.—p. 170.

A Preventive Center Against Scarlet Fever and Whooping Cough.—Debré reports the very encouraging results different social service institutions have secured with children who had been exposed to these diseases but displayed no appreciable signs of the infection. Some preventive measures had to be applied, and they were injected with convalescents' serum. It yielded admirable results.

Bulletin de l'Académie Royale de Médecine, Brussels

4: 33-54 (Jan. 26) 1924

Mutilating Operations in Mouth and Pharynx. M. Goris.—p. 38.
*Chloroform and Ether. Ide.—p. 44.

Chloroform and Ether Anesthesia.—Ide has been making experiments on rabbits concerning minimal concentrations of anesthetics. He found essential differences—which should be considered in administering ether or chloroform—in the first fifteen minutes, in the second fifteen, in the second half hour and in the second hour.

Bulletins de la Société Médicale des Hôpitaux, Paris

48: 221-280 (Feb. 29) 1924

Syphilis and Visceral Sclerosis. C. Flandin and A. Tzanck.—p. 221.
*Grave Pneumobacillus Septicemia. P. Lereboullet and Denoyelle.—p. 226.
Failures in the Diagnosis of Syphilis. M. Pinard.—p. 233.
Syphilis Statistics. H. Dufour.—p. 238.
Frequency of Syphilitic Visceral Sclerosis. M. Renaud.—p. 240.
Therapeutic Epidural Injection of Iodized Oil. Sicard and Coste.—p. 242.
Improvement of Myeloid Leukemia under Thorium X. Chiray and Benda.—p. 245.
The Supraglottic Cough-Inducing Zones. Ameuille and Tarneaud.—p. 251.
Gallbladder-Lung Reflexes. Ramond and Parturier.—p. 253.
Acute Staphylococcus Purpura. M. P. Weil and Azoulay.—p. 258.
Iodized Oil in Radiology of Bronchi and Lungs. F. Bezançon and Azoulay.—p. 262.
Intravenous Injection of Emetin. M. Petzetakis.—p. 263.
The Meltzer-Lyon Nonsurgical Drainage of the Normal Gall Tract. Chiray and Milochewitch.—p. 270.

Grave Pneumobacillus Septicemia.—Lereboullet and Denoyelle report two cases of obscure origin, at first, since they simulated typhoid fever. One of them also developed a diphtheric sore throat. A tendency to hemorrhages, suppuration and leukopenia was noted. Finally they succeeded in isolating Friedländer's bacillus. Both patients recovered.

Comptes Rendus de la Société de Biologie, Paris

90: 385-456 (Feb. 22) 1924. Partial Index

Rectal Administration of Epinephrin. E. Lesné and H. Baruk.—p. 389.
*Condensed Milk as Antiscorbutic. E. Lesné and M. Vagliano.—p. 393.
Antidysenteric Vaccination by Besredka's Method. Anglade.—p. 395.
A Spirillum Inducing Recurring Fever. R. Pons.—p. 396.
Microsporidic Nature of Rabies Virus. C. Levaditi et al.—p. 398.
*Seasickness. R. Dubois.—p. 407.
Diuresis Following Intravenous Injection of Grape Juice. H. Godlewski and C. Richet, Jr.—p. 408.
A Fibroblast Family Under Glass. Carrel and Ebeling.—p. 410.
Suprarenal-Like Effects Through the Splanchnic. A. Tournade and M. Chabrol.—p. 412.
The Lesser Splanchnic, a Suprarenal Nerve. Tournade et al.—p. 414.
*Aseptic Glycolysis. H. Bierry et al.—p. 417.
*Sodium Citrate and Hemostasis. M. Renaud and Juge.—p. 425.
Retrobulbar Epinephrin Injections. Bonnefon.—p. 427.
The Duodeno-Jejunal Angle. Villemin and Huard.—p. 429.
Action of Visible Rays on Mouse Tumors. A. de Coulon.—p. 448.

Condensed Milk as Antiscorbutic.—Lesné and Baruk found that condensed milk prepared with sugar, hermetically sealed, up to 15 months old, contains a potent vitamin C.

Seasickness.—Dubois points out that the main cause of seasickness and mountain sickness is the increased carbon dioxid concentration in the blood, exciting the pneumogastric. Therefore, he advocates inhalation of oxygen in treatment. It has always proved effectual in his experience.

Aseptic Glycolysis.—Bierry and his co-workers prove that free blood sugar disappears sooner than protein sugar. The blood contains an aseptic glycolytic agent.

Hemostasis with Sodium Citrate.—Renaud and Juge urge physiologists to investigate the mechanism of the action of sodium citrate on wounds. Clinically, it is remarkable how rapidly—given by the vein—it stops local hemorrhages. The shock following its injection suggests prompt action on the vasoconstrictors. It is probable that it stimulates thrombin production.

Gynécologie et Obstétrique, Paris

9: 1-172 (Jan.) 1924

*Interstitial Gland and Menstruation. G. Schickelé.—. 1.
*Intraperitoneal Hemorrhage Due to Corpus Luteum. G. Schickelé.—p. 9.
Decidual Hyperplasia with Hemorrhage. A. Riotte.—p. 23.
Placenta Tumors. G. Schickelé.—p. 50.
Genesis of Hydatidiform Mole. R. Keller.—p. 68.
Placenta Marginata. P. Riehl.—p. 82.
*Sudden Death After Delivery. G. Schickelé.—p. 123.
Pituitary Extract in Obstetrics. P. Burger.—p. 136.
Malignant Aberrant Myoma. P. Jacquin.—p. 163.

No Influence of Corpus Luteum on Menstruation.—Schickelé's experience tends to refute any supposed influence of the corpus luteum on menorrhagia, metrorrhagia or normal menstruation. The same is true of the interstitial gland.

Hemorrhage Due to the Corpus Luteum.—Schickelé holds that in certain exceptional cases rupture of the lutein cyst is able to cause serious intraperitoneal hemorrhages.

Sudden Death After Delivery.—Schickelé reports three cases in which sudden death occurred after a relatively easy delivery. Necropsy revealed insufficiency of the liver.

Journal de Chirurgie, Paris

23: 113-224 (Feb.) 1924

Reconstruction of the Femur. B. Cuneo and J.-C. Bloch.—p. 113.
*Rupture of Pyosalpinx. P. A. Huet.—p. 123.

Rupture of Pyosalpinx.—Huet records the common mechanical causes for the rupturing of a pyosalpinx. He emphasizes the need for differentiation between traumatic ruptures and nontraumatic perforation, since the mortality rate of the former is only three out of ten, while that of the latter is much higher, that is, eight out of twelve. The clinical diagnosis is that of any intra-abdominal hemorrhage—pulse rate over 130, ascending fever, vomiting, cutaneous abdominal hyperesthesia and a leukocyte count as high as 28,000. As the condition may take a fatal turn, immediate surgical intervention is recommended, either by colpotomy or, if this be impossible, by the abdominal route.

Médecine, Paris

5: 325-400 (Feb.) 1924

*Neurology in France in 1923. Laignel-Lavastine.—p. 325.
Para-Encephalitis. J.-A. Sicard.—p. 341.
Morbid Apprehension. M. de Fleury.—p. 345.
Epidemic Radicular Neuralgia. H. Verger.—p. 347.
Diagnosis of Brain Tumors. A. Thomas.—p. 351.
Postencephalitic Muscular Atrophy. J. Lhermitte.—p. 354.
*Pyramidal Lesions and Vertebral Arthritis. J. A. Barré.—p. 358.
Psychologic Analysis of Delirium. A. Hesnard.—p. 363.
Psychiatry and Psychology. A. Delmas.—p. 366.
Nervous Disturbances in Malaria. Monier-Vinard.—p. 371.
Autodescription of Schizophrenia. E. Minkowski.—p. 377.
The Colloidal Benzoin Test. A. Bauer.—p. 382.
Choice of Drug and Mode of Use in Syphilis. M. Bloch.—p. 387.
Treatment of Mental Backwardness. P. Courbon.—p. 390.

Neurology in France in 1923.—Laignel-Lavastine outlines the latest developments in French neurology. While Freudism has never taken deep root in France, on the other hand, questions of compression of the spinal cord, diseases of the sympathetic system, neurosyphilis, and extension of mental hygiene have been given careful consideration.

Pyramidal Lesions and Vertebral Arthritis.—Barré records that chronic vertebral arthritis may cause pyramidal symptoms. This may lead to mistaking them for incomplete forms of multiple sclerosis or Pott's disease.

Presse Médicale, Paris

32: 201-208 (March 5) 1924

*Infantile Paralysis. P. Nobécourt and P. Duhem.—p. 201.
Treatment of Diabetes. N. C. Paulesco.—p. 202.
*Perforated Gastric Ulcer. X. Delore et al.—p. 204.

Treatment of Acute Poliomyelitis.—Nobécourt and Duhem consider infantile paralysis as a social disease, on account of its high contagiousness and the often irreparable injury. They hold that proper treatment should be organized by dispensaries and other appropriate services, with an expert personnel and trained nurses specialized along these lines.

Treatment of Perforated Gastric Ulcer.—Delore and his co-workers recommend the simplest possible repair of the perforation, with gastro-entero-anastomosis and preventive suprapubic drainage. Although gastropylorectomy seems to be theoretically more satisfactory, yet it is such a formidable intervention that, if possible, it is better to avoid this.

32: 209-220 (March 8) 1924

Experimental Cancer. G. Roussy.—p. 209.
*Obstruction by Distoma. E. Maury and R. Pélissier.—p. 213.
Carbon Tetrachlorid, an Anthelmintic. L. Cheinisse.—p. 214.

Obstruction of the Common Bile Duct by Fasciola Hepatica.—Maury and Pélissier record the case of a woman who complained of violent attacks of liver colic. As she presented transient jaundice and had lost weight, a routine operation was performed, expecting to find gallstones. Instead, they discovered in the very much dilated common duct a rolled up distoma hepaticum. The patient recovered after its removal, but nothing could be done to insure against a possible relapse. None had ever been found in the stools, and there was no eosinophilia. Ten years previous to her operation, an epizootic caused much damage in her community, and her first symptoms dated from that time.

32: 221-232 (March 12) 1924

Diastases in Physiology and Pathology. M. Labbé.—p. 221.
*Ventricle Tumors. Jumentié and Chausseblanche.—p. 225.

Tumors of the Third Ventricle.—Jumentié and Chausseblanche stress the difficulties of a precise diagnosis of ventricular tumors. The infundibular syndrome—caused by a tumor—may originate either from the pituitary or from the tuber cinereum. The course may be in waves. In one case the growing neoplasm was accompanied with transient attacks of symptoms, with six intermissions. At first, disturbance in the urinary output, in sleep and visual acuity were noted. Later, symptoms of intracranial pressure developed, with narcolepsy, amnesia, dysarthria and blanching of the optic disk; in the last stages, muscular rigidity, relaxed sphincters, the Babinski sign, dysphagia, myoclonic movements, and a respiration resembling somewhat the Cheyne-Stokes' type, which merged into fatal coma. Choked disk and other signs suggesting intracranial hypertension have been only exceptionally recorded. Surgical intervention may sometimes save the patient.

32: 233-244 (March 15) 1924

*Intracardiac Injection of Epinephrin. Lenormant, A. Richard and J. Sénèque.—p. 233.
*Shock Therapy in the Insane. C. Pascal.—p. 234.
Collapse of the Lung After Pneumothorax. M. Léon-Kindberg.—p. 237.
Hematosis Following Surgical Shock. D. Baruch.—p. 239.

Intracardiac Epinephrin Injection in Acute Cardiac Failure.—Lenormant and his co-workers report two cases in one of which they succeeded in resuscitating the patient with definite recovery from cardiac failure. After the abdomen had been incised for removal of a uterine fibroma, the heart action failed as the table was tilted for the Trendelenburg position. This patient had been previously submitted to spinal anesthesia with 0.15 gm. of procain. They immediately injected into the heart 2 c.c. of the 0.1 per cent. solution of epinephrin. In the other case, the intracardiac injection of epinephrin caused but a temporary resumption of the heart beat. They urge never to hesitate in an attempt at such intervention. It is never as formidable as massage of the heart through the diaphragm.

Shock Therapy in the Insane.—Pascal, as chief of staff of the state asylums for the insane, made a systematic investigation of the curative value of various types of shock. She found that vaccine shock, serum shock, colloidal and protein shock yielded only dubious results. Nucleinic shock and arsphenamin shock seem to be so violent as to cause hesitation in resorting to them. The best results were derived from turpentine shock by producing "fixation abscesses."

32: 245-252 (March 19) 1924

*Bismuth in the Cerebrospinal Fluid. E. Jeanselme et al.—p. 245.
Treatment of Pneumothorax. F. Dumarest and A. Farjon.—p. 246.
Intestinal Parasitism and Malaria. J. David and J. Ségal.—p. 249.

Passage of Bismuth into Cerebrospinal Fluid in Syphilis.—Jeanselme and his co-workers found that in not a single one of the thirty cases studied could the passage of bismuth from the point of injection into the spinal fluid be demonstrated. They believe that normal and even pathologic meninges are impermeable to both arsenical and bismuth preparations.

Progrès Médical, Paris

129-140 (March 1) 1924

*Prenatal Pathology and Morbid Heredity. H. Vignes.—p. 129.
Abscess of the Prostate. Legueu.—p. 131.
Chronic Asthenia Complicating Excessive Emotionalism. Benon.—p. 133.

Prenatal Pathology and Morbid Heredity.—Vignes emphasizes the great importance of closer study of the pathology of the gametes, of fecundation, and of fetal development. If

a fetus dies before its birth, it is customary in lying-in hospitals to ascribe this event indiscriminately to syphilis. But matters are not so simple. We ought, he says, to search carefully for the specific etiology in every case in which either a prenatal lesion or morbid heredity can be suspected.

Revue Médicale de la Suisse Romande, Geneva

44: 65-128 (Feb.) 1924

*Mental Torticollis and Striatal Syndrome. E. Long.—p. 65.
*Oculocardiac Reflex with Goiter. E. Thomas.—p. 75.
*Psychanalysis. C. Odier.—p. 83.
The Tuberculosis Death Rate. E. Olivier.—p. 90.
"Internal Bath or Total Lavage of the Intestines" by the Brosch Subaqueous Method. J. E. Kuhne.—p. 111.

Mental Torticollis and Striatal Syndrome.—Long discusses the differentiation of mental, pallidal and striatal torticollis. While the spastic dyskinesia due to a pallidum lesion manifests itself in extensive regional symptoms, the symptoms from the striatal lesion are more strictly localized. The tendency in surgical treatment today is rather toward peripheral surgical intervention on the spinal accessory nerve or other nerve than elsewhere.

The Oculocardiac Reflex in Children with Goiter.—Thomas, having made investigations on 1,324 Swiss schoolchildren, found that the relatively increased depression of the pulse rate during pressure on the eyeball may be explained by a pneumogastric hypersensitivity. This latter he ascribes to lack of normal endocrine regulation, especially in the domain of the thyroid and the epinephrin-sympathetic system.

Contraindications and Indications for Psychanalysis.—Odier protests against the indiscriminate use of psychanalysis, as liable to do harm when applied outside of the proper indications, even by psychanalysis specialists and much more so by the nonspecialists. Therefore, it is of foremost importance to outline proper contraindications and indications for it. Thus, he says, it does not seem to be available in narcisistic neuroses; in kleptomania; in fantastic pseudologia; in simple neurasthenia; anxiety neuroses; traumatic neuroses; hypochondria; any psychoneurotic case in persons over 50 or with low-grade mentality, and, finally, when the patient is antagonistic. He lists the indications as compulsion neuroses; obsessions; classic hysteria; phobias; social maladjustments; doubt neuroses; perversions; ejaculatio praecox; dysmenorrhea; frigidity; vaginism; onanism; enuresis; somnambulism; night-frights; emotional character defects of children; oesophago-gastro-intestinal neuroses, and, finally, alcohol addiction. One important acquisition from analysis in psychiatry is that it has yielded an attempt at deciphering and translating the unconsciously symbolic language used by the insane.

Schweizerische medizinische Wochenschrift, Basel

54: 229-252 (March 6) 1924

*Nourishment and Cancer Evolution. F. Ludwig.—p. 232.
*A Case of Clairvoyance. W. Neumann.—p. 235.
Etiologic Relation of Warts and Acute Condylomas. E. Frey.—p. 239.
Conc'n.
Toxicity of Mushrooms. F. Thellung.—p. 243.

Food and Cancer Evolution.—Ludwig demonstrates that the food has a material influence on the development of cancer. Mice nourished with avitaminous food did not develop cancer when inoculated with it, but those kept on normal diet perished from cancer.

A Case of Clairvoyance.—Neumann points out that psychologists and psychiatrists ought to learn something more about the phenomena of parapsychology, namely, the problems of telekinesis, telesthesia and telepathy. He proves in a case, very well controlled by a scientific committee, that neither conscious nor subconscious deceit or fallacy interfered with telesthesia. The experiments were made at the request of the president of the Polish republic and with the cooperation of a London strictly scientific association.

Archivio Italiano di Chirurgia, Bologna

8: 593-767 (Jan.) 1924

Pathogenesis of Operative Brain Hernia. Torchiana.—p. 593.
*Idem of Congenital Hernia of Tube and Ovary. S. Lussana.—p. 626.
Isolated Volar Luxation of Ulna in Wrist. S. Ciaccia.—p. 641.
Luxation of Fibula in Ankle. C. Vaccari.—p. 658.

Congenital Hernia of Uterine Adnexa.—Lussana discusses the embryology of the malformation of the broad ligament responsible for inguinal hernia of the ovary or tube, reporting a case in which both ovary and tube were involved. He has compiled 103 similar cases from the records, 178 of the ovary alone, and 55 of the tube alone. He warns against resecting the herniated organs if they seem to be sound.

Pediatria, Naples

32: 305-376 (March 15) 1924

*Circulatory Disturbances in Appendix. F. Guccione.—p. 305.
Agglutination in Colitis in Infants. A. Laurinsich.—p. 331.
*Agent of Measles in Urine and Exanthem. P. Ritossa.—p. 346.
Congenital Fragility of Bones. C. Castelli.—p. 351.
Immunization Against Diphtheria. A. Ronchi.—p. 361.

Circulatory Disturbances in the Appendix.—Guccione introduced laminaria into the appendix of rabbits and studied the effects of the gradually increasing local disturbance of the circulation produced by the swelling of the tent. If it failed to swell and simply remained in the lumen, no disturbances were observed. Only when the compression of the vessels was strong enough to cause extensive necrosis, the animals died.

Agent of Measles in Urine and Exanthem.—Ritossa cultivated from the urine, exanthem and scales in measles microorganisms which were identical with the anaerobic cocci isolated by Caronia from filtrates of the nasopharyngeal secretion. He concludes from his findings that measles may be transmitted in the stage of desquamation.

Policlinico, Rome

31: 279-312 (March 3) 1924

Gastro-Intestinal Diseases. P. Alessandrini.—p. 279.
Laryngeal Perichondritis in Typhoid. T. Lucherini.—p. 283.
Polyarthritis and Empyema After Phlegmon. F. Viola.—p. 287.
Malaria Treatment of Paralysis. G. Modena and N. De Paoli.—p. 289.
*Fight Against Plague in 1575. G. E. Ingrao.—p. 291.

Fight Against Plague in 1575.—Ingrao describes the rules instituted in 1575 by Ingrassia during the plague in Palermo. He was convinced that a certain occult cause must be present besides putrefaction. Cases of plague had to be reported under penalty of death for infraction of the rule. The patients were isolated, and dogs, cats and rats were killed.

31: 125-188 (March 1) 1924. Medical Section

*Combined Blood Sugar. L. Condorelli.—p. 125.
*Determination of Stercobilin. P. Pietra and G. Bozzolo.—p. 145.
*Hay's Test. G. Sabatini and E. Bruni.—p. 166.
Latent Tumors of the Liver. F. Guccione.—p. 176.
Reduction of Picric Acid in Organs. G. Giorgi.—p. 184.

Combined Blood Sugar.—Condorelli publishes his method for determining the combined sugar content of the blood. It increases after meals more slowly than the free sugar, and remains unchanged or declines after an injection of epinephrin. It resists glycolysis better than the free sugar.

Determination of Stercobilin.—Pietra and Bozzolo extract the feces with hot ethyl alcohol in a condensing apparatus. They confirm the higher figures in pernicious anemia and the lower in secondary anemia. The figures are low in mechanical jaundice. They may be high in the urobilinuria phases of liver disease.

Hay's Test.—Sabatini and Bruni's experiments demonstrate the great influence of the quality of the sulphur on the results of the test.

Riforma Medica, Naples

40: 217-240 (March 10) 1924

*Agglutination of Malta Fever Cocci in Tuberculosis. L. Amabile.—p. 217.
*Glycemia, Blood Pressure and Kidney Function. G. Aiello.—p. 219.
Benzoin Reaction in Neurosyphilis. G. Milani.—p. 220.
Cerebral Tumor. O. D'Allocco.—p. 223.

Agglutination of Malta Fever Cocci in Tuberculosis.—Amabile does not confirm the findings of agglutination of *Micrococcus melitensis* with serum from tuberculous patients. None of his tuberculous patients gave a positive reaction except those with a history of Malta fever.

Relations Between Glycemia, Blood Pressure and Kidney Function.—Aiello found no parallelism between glycemia and hypertension in his fifteen patients. Hyperglycemia seems to be associated with retention of nitrogen except in gout from lead poisoning.

Rivista di Clinica Pediatrica, Florence

22: 145-216 (March) 1924

*Olive Oil in Infant Feeding. G. Frontali.—p. 145.
Congenital Pyloric Stenosis. F. Lanzarini.—p. 171.

Absorption of Olive Oil in Infants.—Frontali observed that the petroleum benzin extracts from dilutions of cow's milk remained fluid at 41 C., while the extracts from the feces of infants fed with the same milk were solid. He concluded from this that absorption of the more liquid fats is easier. He found, also, that oil is used in Italy with good results instead of butter in infant's food. The more fat he substituted with oil in infants' food mixtures, the better was the absorption. The best absorption (96.75 per cent.) was observed when he used a gruel made with skimmed milk, 500 parts; water, 500; olive oil, 40; flour, 40; and sugar, 45 parts. The olive oil was well tolerated even in the first months of infancy. It gave no good results in grave cases of atrophy and nutritional disturbances.

Revista de la Asoc. Méd. Argentina, Buenos Aires

36: 783-932, 1923

Prognosis of Projectiles in Orbit. J. Lijo Pavia.—p. 783.
Congenital Defect of External Rectus Muscles. A. Natale.—p. 789.
*Alcohol and Nicotin Amblyopia. E. Adrogué.—p. 798.
Cysts on Woman's Eyelids. Gil and Satanowsky.—p. 807.
*Symmetrical Lymphoma of Both Orbits. A. Tiscornia.—p. 818.
Xerosis of the Cornea. E. Adrogué and E. J. J. Lagos.—p. 839.
Foreign Bodies in the Esophagus. P. L. Errecart.—p. 845.
Brain Abscess. J. de la Cruz Correa and R. Becco.—p. 849.
Calculus in Submaxillary Gland. P. Belou.—p. 854.
Streptococcus Mucosus Mastoiditis. Arauz and Podestá.—p. 857.
Lemaitre's Operation for Otitic Brain Abscess. Zambrini.—p. 862.
Acute Optic Neuritis in Sinusitis. J. Layera.—p. 866.
Fistula, Ethmoidal Mucocele and Sphenoidal Sinusitis, Recovery After Intranasal Operation. Tarasido.—p. 868.
Abscess in Tongue. S. L. Arauz and P. Jauregui.—p. 870.
Device for Insolation of Larynx. L. Samengo.—p. 874.
Case of Maxillary Sinusitis. H. Zubizarreta.—p. 883.
Paranephretic Tumor. R. Spurr.—p. 891.
Tuberculous Cavernitis. O. Buzzi.—p. 902.
Tuberculous Abscess in the Prostate. E. Castaño.—p. 906.
Perinephritic Abscess After Phlegmon of Hand. J. Salleras.—p. 909.
*Azotemia. A. Astraldi.—p. 915.
Unusual Bilateral Kidney Calculi. R. Spurr.—p. 919.

Tobacco Amblyopia.—Practically the same article was summarized, Jan. 5, 1924, p. 69, when published elsewhere.

Radiotherapy of Lymphoma of the Orbit.—The symmetrical large lymphomas in the lower eyelids of the man, aged 56, extended down on each cheek. Similar but smaller tumors three years before had partly retrogressed under mercurial treatment although there was nothing to suggest venereal disease. Under a course of roentgen-ray treatment, the lymphomas completely subsided. In similar cases on record, in fifteen the lymphomas were in conjunctiva and lids; in ten in the orbit, and in eight in the lacrimal passages. The exact localization was not mentioned in a few others. All were assumed to be primary symmetrical growths, and the blood findings were normal in the majority; leukemia was more frequent in the cases in children. Prompt and permanent benefit followed the roentgen-ray exposures in a number summarized from the records. The results have been uncertain with mercury, iodin and arsenicals, but some cures have been reported under radium.

Uremia.—Astraldi gives the Ambard coefficient as calculated in twenty-six cases of uremia amounting to 0.23 to 0.50 per thousand and in thirteen with uremia of from 0.51 to 0.81. The figures show the fallacy of attempting to estimate the functional capacity of the kidneys from the uremia alone. The extremes of the Ambard coefficient were 0.068 (with 0.31 urea per thousand) and 0.164 (with 0.50 per thousand). In some cases with the same urea figure (0.25), the Ambard coefficient varied from 0.075 to 0.120. With 0.37 urea per thousand, it varied from 0.086 to 0.138.

Revista Médica de Barcelona

1: 1-96 (Jan.) 1924

*Early Diagnosis of Gastric Cancer. M. Cortes Llado.—p. 3.
*Herpes of Pregnancy. S. Dexeus and F. Serra Rabert.—p. 11.
Backward Curvature of Knee. A. Devesa and J. Bonrepaux.—p. 28.
*Persisting Secretion of Breast Milk. G. Marañon.—p. 33.
Laboratory Aids in Neuropsychiatry. C. Rizzo.—p. 40.
Present Status of Bismuth in Syphilis. A. Peyri.—p. 53.

Early Diagnosis of Gastric Cancer.—Cortes Llado deplores the habit of too many physicians to wait for a certain diagnosis before recognizing cancer in the stomach. By that time it is too late. He urges to suspect cancer in every case of tenacious constipation—it may be the beginning of stenosis of the pylorus; in every case of rebellious, fetid and recurring diarrhea—a sign of hypochlorhydria and incontinence of the sphincter; in every case of loss of flesh without known cause, of progressive and inexplicable pallor, of pains, whether in the epigastrium or lumbar region, especially after the age of 40. The physician should be on the alert to detect any of these disturbances. If he finds one, the patient must be referred for closer study. For this he applies the retention stomach tube with fractioned extraction of the stomach content. In twenty-five cases of gastric cancer, the anachlorhydria curve was obtained in twenty-two, and the hypochlorhydria curve in a case of ulcerated cancer of the lesser curvature and one of nonulcerated cancer of the pylorus. The hyperchlorhydria curve was obtained only in one case of an ulcer-cancer. Free hydrochloric acid was found in only 12 per cent. If no blood is discovered in any specimen of the gastric content, or the hyperacidity curve is obtained, cancer can be practically excluded. With anachlorhydria and considerable blood, cancer may be accepted with 99 per cent. probability. Hypo-acidity with considerable blood turns the scale against cancer, as this is found in only 5 per cent. of the cancer cases (aside from malignant degeneration of an ulcer; these cases present a different clinical picture). Exploratory laparotomy should be the last resort, after failure of all other measures, including the study of what Loeper calls the blood tripod of gastric cancer, namely, the high antitryptic power, the extra resistance of the blood corpuscles and the absence of digestive leukocytosis.

Pregnancy Herpes.—Dexeus Font and Serra Rabert report a case of a dermatosis at the first pregnancy and returning at the third, while there was no trace of it during the woman's second pregnancy. They do not venture to decide whether it was herpes gestationis or herpetiform impetigo, but the manifestations were exceptionally severe, everting the lids, and causing at the first pregnancy the dropping of the hair which came off in a solid mass, leaving the woman completely scalped. As the dermatosis appeared in the third pregnancy, treatment with serum from a healthy pregnant woman was begun, and the effect was prompt and complete, inducing a complete clinical cure. From 4 to 6 c.c. of the serum was injected subcutaneously every two or three days, eight injections in all.

Persisting Lacteal Secretion.—In the first of Marañon's two cases, the premature menopause developed after the woman's third pregnancy at the age of 35. She suckled her infant for fourteen months, but the mammary secretion persisted unmodified for four years after the birth of the child, and then gradually stopped. No form of organotherapy or other measures had any apparent effect on the lactation. In a second case, a phantom pregnancy was accompanied by profuse lacteal secretion which has persisted for two years to date. The woman is now 29 and seems otherwise healthy. On the assumption of an extra-uterine pregnancy, very careful examinations were made, with exploratory laparotomy, but nothing was found to indicate anything beyond a phantom pregnancy, except the persisting mammary secretion. It was evidently traceable to some endocrine anomaly on a psychic basis. Menstruation has not returned.

Rev. Sud-Amer. de Endocrinología, etc., Buenos Aires

7: 1-60 (Jan.) 1924

*Bronchial Spirochetosis. R. Maglione and R. Palazzo.—p. 1.

Case of Bronchial Spirochetosis.—Maglione and Palazzo report that inoculation of guinea-pigs with sputum from the case of bronchial spirochetosis described induced a deep and rapidly spreading abscess which could be transmitted to other guinea-pigs. The patient was a young woman who had been coughing for about eight months after a severe chilling. The cough was most severe on retiring, and the sputum was blood stained. Under intravenous treatment with neo-arsphenamin, in six weeks she gained 4 kg. and expectoration had dropped from 150 to 40 c.c.

Semana Médica, Buenos Aires

1: 323-362 (Feb. 21) 1924

Albumin Milk for Sick Infants. M. Acuña.—p. 323.
*Suprarenal Insufficiency from Roentgenotherapy. Arrillaga and Izzo.—p. 327.
*Bismuth in Congenital Syphilis. Beretervide and Thénon.—p. 331.
Bismuth in Abortive Treatment of Syphilis. J. F. Riobó.—p. 340.
Sodium Salicylate Does Not Differentiate Rheumatism. S. Libarona Brián.—p. 347.
Debility in Infants. T. A. Tonina.—p. 351.

Acute Suprarenal Insufficiency from Roentgen-Ray Exposures.—The man, aged 39, had mild Addison's disease when he was given deep roentgen-ray treatment for an epithelioma of the tonsil. Intense suprarenal insufficiency developed at once, the patient rousing from coma only when injected twice with epinephrin. Necropsy the sixth day after the single exposure confirmed the recent exaggeration of the destructive process in the suprarenals. Arrillaga and Izzo ascribe the rapidly fatal outcome to the injury from the acute roentgen intoxication—the *roentgenkater*—affecting already damaged suprarenals. They add that this case justifies administration of epinephrin by the mouth preliminary to irradiation, and subcutaneously at the first signs of the *roentgenkater*.

Bismuth in Treatment of Congenital Syphilis.—In the twenty-four cases described, the bismuth seemed to be effectual. No by-effects calling for treatment were observed in any of the children.

Archiv für Verdauungskrankheiten, Berlin

32: 201-372 (Feb.) 1924

Chemistry of the Stomach. G. Katsch and H. Kalk.—p. 201.
*Action of Pilocarpin on the Stomach. H. Kalk.—p. 219.
*Spasmophilia in Gastric Ulcer. G. Peritz and F. Fleischer.—p. 243.
*Signs and Pathogenesis of Ulcer. G. Holler.—p. 257.
Ulcer Symptoms Without Ulcer. G. Holler and J. Vecsler.—p. 285.
Roentgenology of the Stomach. M. Lüdin.—p. 299.
*Cholelithiasis. E. Meulengracht.—p. 313.
Resorption in Human Stomach. J. H. Cascão de Anciães.—p. 343.
*Pain and Boas' Tender Points. G. Szemző.—p. 353.
Ulcer of the Greater Curvature. H. E. Lorenz.—p. 365.

Action of Pilocarpin on the Stomach.—Kalk found a prolonged time of evacuation of the stomach after injections of pilocarpin. It also caused an increased secretion of a less acid fluid.

Spasmophilia in Gastric Ulcer.—Peritz and Fleischer observed indications of spasmophilia in forty patients with gastric ulcer. They believe that these manifestations of spasmophilia indicate a predisposition to ulcer formation.

Signs and Pathogenesis of Ulcer.—Holler reviews, from the viewpoint of a nervous etiology, his 419 cases in which there were some symptoms of ulcer of the stomach or duodenum. In 68 per cent. there were clinical and roentgenologic signs of an ulcer. He classifies the rest as patients with functional or organic affections of the visceral nerves which had not as yet led to an ulcer. The majority of the neurogenous ulcer cases were associated with affections of the mediastinum (66 per cent.). He found in these patients an interscapular dullness and pains, spinalgia with a hyperalgetic cutaneous zone, and d'Espine's phenomenon. An affection of the apex of the lung was found extremely frequently.

Cholelithiasis versus Gastro-Intestinal Affections.—Meulengracht investigated the cause of diagnostic blunders in gallstone cases. The typical wrong diagnosis is an affection of the stomach or intestine. The painful spot in cholelithiasis may be localized in the median line, but it shifts to the right during and after an attack of pain. Bilirubin in the blood and urobilin in the urine increase after the pains. The subjective disturbances in cholelithiasis are very variable, and dieting does not abolish them. The feeling of tension in the epigastrium starts immediately after the meal. Dyspepsia seems to be a direct effect of the cholelithiasis, and is not due to a secondary change of gastric secretion. The slightest increase in temperature after an attack of pain should draw attention to the gallbladder.

Boas' Tender Points.—Szemző examined the sensitive points at the side of the spine (Boas' pressure points) in patients with affections of the stomach and liver. In twenty of thirty-three cases, the sensitiveness stopped when the hypogastrium was pushed upward.

Deutsche Zeitschrift für Chirurgie, Leipzig

184: 1-140 (March) 1924

*Backward Dislocation of Shoulder. H. R. Schinz.—p. 1.
Fracture of Transverse Process of Lumbar Vertebrae. E. Schinz.—p. 29.
*Operative Treatment of Gastric Ulcer. M. Friedemann.—p. 63.
*Duodenal Ulcer. G. E. Konjetzny.—p. 85.
Ascarids in Roentgenograms. H. K. Schinz.—p. 105.
Combined Operations for Elephantiasis of Leg. E. Birt.—p. 110.
Adhesive Peritonitis in Upper Abdomen. Harttung.—p. 115.
Perforation of Gastric Cancer. J. Amberger.—p. 118.
Dislocation-Fracture of Talocrural Joint. M. Jakob.—p. 121.
Chondrodystrophy at Upper End of Femur. M. Budde.—p. 127.

Backward Dislocation of the Shoulder.—Schinz comments on the tendency to recurrence of this luxation, and the danger of assuming that a simple sprain is responsible for the disturbed function. Roentgenograms of the various types are given, with the indications for treatment.

Social Indications for Operative Treatment of Gastric Ulcer.—Friedemann advises conservative measures when the ulcer is of recent development or the disturbances are mild, with long intervals. In spite of all the improvement in technic, resection still proves occasionally fatal. He is more inclined to advise resection for workingmen who are not sure of systematic proper diet for an ulcer subject, or when the recurring attacks incapacitate too much and too often. Extensive resection of the stomach and duodenum gives the best ultimate results, and the diet after this is of less moment. He states that the operation was successful in all but 7.22 per cent. of his 388 large resections and in all but 5 per cent. of his latest 100 cases.

Inflammatory Basis for Duodenal Ulcer.—In Konjetzny's twenty-two cases of duodenal ulcer, there was pronounced gastritis and duodenitis in every instance, and in 54.5 per cent. of the cases erosions were manifest. This underlying chronic inflammatory process must be borne in mind as an element in peptic ulcers. He denounces the general assumption that the inflammatory process is secondary, and he warns that the chronic gastritis does not offer very favorable conditions for successful treatment by a gastro-enterostomy alone. He regards this as only a makeshift when the Billroth I is not advisable.

Jahrbuch für Kinderheilkunde, Berlin

104: 129-256 (Feb.) 1924

*Thrush. B. Epstein.—p. 129.
*Etiology of Keratomalacia. E. Stransky.—p. 183.
*Sense Perceptions in the Prematurely Born. A. Peiper.—p. 195.
Epidemiology of Diphtheria. Hanssen.—p. 201.
Scurvy in Children. B. Schagan.—p. 225.

Thrush.—Epstein found two different types of thrush, a conidium and a hypha form. In his observations he was always able to trace the origin of an infant's thrush to the mouth of the mother. He believes that the parasite of aphthous stomatitis may exist latent, for a time, in the mouth.

Etiology of Keratomalacia.—Stransky concludes from his clinical cases that xerophthalmia is derived from a lowered resistance against infections. If this is caused by hypovitaminosis, the treatment consists of administering vitamin A; but if it be a sign, merely, of a general nutritional disturbance, the condition seems to be less reparable.

Sense Reactions in the Prematurely Born.—Peiper found that the sense organs of prematurely born babies were just as prompt in responding to stimuli as those of full term infants.

Klinische Wochenschrift, Berlin

3: 433-464 (March 11) 1924

Tuberculosis and Pregnancy. G. Liebermeister.—p. 433.
*Dementia Praecox. O. Bumke.—p. 437.
*Units of Insulin. E. Laqueur.—p. 440.
*Herpes Virus in Blood. P. Bastai and A. Busacca.—p. 442.
Latent Diabetes Insipidus. A. Wagner.—p. 444.
The Hay Test for Biliary Acids. H. Müller, Jr.—p. 445.
*Etiology of Aphthous Stomatitis. O. Gans.—p. 447.
*Intracutaneous Therapy. M. Lévai.—p. 447.
"Vagus and Sympathetic." Schilf.—p. 448. Idem. Brüning.—p. 449.
"Leukocyte Index." Ockel.—p. 449. Reply. Krebs.—p. 450.
Hypertonic Glucose and Frog's Heart. Bürger and Baur.—p. 451.
Determination of pH in the Tissues. S. Gräff.—p. 451.
Primary Syphilis of Eyelid. W. Gerschun.—p. 452.
Lobulation of Alae Nasi. A. v. Kaló and T. v. Liebermann.—p. 452.
Treatment of Helminthiasis. F. Goebel.—p. 453.

Dementia Praecox.—Bumke believes that the investigations on constitutional differences have led to an underestimation of exogenous factors in schizophrenic syndromes. If Bleuler finds schizoid indications in everybody, he simply substitutes the term "schizoid" for "man" without proving anything except the presence of some general human traits in schizophrenia patients. Bumke believes that some of Kretschmer's supposedly schizoid types, such as the "cold aristocrats," "pathetic idealists" and "cold despots" are simply healthy and in no way a temperament akin to dementia praecox. On the other hand, if a person is oversensitive and at the same time cold, without pretending coldness as a mask, or obstinate and suddenly impulsive, he cannot be considered as a variety of normal, but simply as pathologic. It may be an abortive form of schizophrenia. The whole structure of the conception of dementia praecox is crumbling.

Units of Insulin.—Laqueur surveys the production of insulin in the Netherlands. After determining its strength on rabbits, he has it tested by clinicians and uses their report for the label. The difficulties of standardization are great. Man is still less suitable for it than animals. The verdicts of the clinicians on a batch differ sometimes considerably (over 200 per cent.).

Herpes Virus in Blood.—Bastai and Busacca produced a herpetic keratitis and encephalitis in rabbits with corneal inoculation of the concentrated blood serum from one of them suffering from recurring herpes. The inoculation was positive, also, with blood in the latent period of the disease. This explains the occasional presence of herpes virus in epidemic encephalitis.

Etiology of Aphthous Stomatitis.—Gans inoculated the rabbit cornea with material from aphthous stomatitis. The infection of the animal could be prevented by the patient's serum.

Intracutaneous Therapy.—Lévai injected, intracutaneously, various drugs, especially atropin. Much smaller doses were sufficient to produce an effect, than in subcutaneous administration.

Medizinische Klinik, Berlin

20: 299-332 (March 9) 1924

*Statistics on Mortality and Necropsies. O. Lubarsch.—p. 299.
*Infectious Diseases in South America. R. Kraus.—p. 301. Conc'n.
Rare Arsphenamin Injuries. C. Bruhns.—p. 305.
Hemoclastic Crisis as Liver Function Test. B. Engelmann.—p. 308.
Tuberculin Treatment of Tuberculosis of Peritoneum. C. Stuhl.—p. 312.
Gonorrhea of Rectum. A. Cohn.—p. 315.
*Fornet's Tuberculosis Reagent. G. Salus.—p. 316.
Practical Gynecology. E. Runge.—p. 318. Cont'n.
Organic Central Disturbances. S. Gräff.—p. 320.
Survey on Urology. Paschkis.—p. 322.
Sterilization of the Unfit. J. J. Stutzin.—p. 331.

Statistics on Mortality and Necropsies.—Lubarsch compares the clinical diagnosis with the necropsy findings in about 4,100 cases of cancer. They formed 9.2 per cent. of the 40,937 necropsies of the year 1920. The large number of incorrect diagnoses as to the nature and primary seat shows the scant value of mortality statistics made without postmortem examination.

Infectious Diseases in South America.—Kraus concludes his report on infectious diseases in South America. For years he was at the head of the state bacteriologic institute in Argentina and later in Brazil.

Fornet's Tuberculosis Reagent.—Salus found very strong reactions with the serum of healthy women in late pregnancy and lactation when using Fornet's diagnostic emulsion of tubercle bacilli.

Monatsschrift für Kinderheilkunde, Leipzig

27: 465-544 (Feb.) 1924

Basal Metabolism in Children. F. B. Talbot.—p. 465.
*Treatment with Albumin Milk. Paul.—p. 504.
*Measles Without Exanthem. E. Krasemann.—p. 510.
*Leukocyte Count During Digestion. Hainiss and Heller.—p. 512.
Relaxation Versus Hernia of the Diaphragm. W. Schober.—p. 520.

Indicanuria as Guide in Treatment with Albumin Milk.—Paul states that if indicanuria persists, and the child fails to gain in weight, on a course of albumin milk in treatment of fermentative dyspepsia, it is advisable to add a larger proportion of carbohydrate to the infant's food.

Measles Without Exanthem.—Krasemann reports the case of three children, of the same mother, having developed Koplik's sign, without the measles exanthem. The mother herself has never had measles, but her mother had had severe measles twice. Krasemann theorizes that there has been a familial overproduction of immune bodies which worked perfectly in the mother, but became so far attenuated in the grandchildren as to allow an abortive form of measles to develop in them.

Leukocyte Count and Digestion.—The experiments of Hainiss and Heller made on new-born infants prove that digestive leukocytosis and leukopenia vary irregularly. Hemoclastic crises were observed by the second day. Not all infants react with leukopenia to nourishment ingested. A few infants never reacted by crisis. At the end of the new-born phase, digestive leukocytosis becomes the rule. There does not seem to be any connection between the leukocyte count and jaundice in the new-born.

Münchener medizinische Wochenschrift, Munich

71: 289-320 (March 7) 1924

Roentgenology of Tuberculosis. H. Engels.—p. 289.
The Blood Platelets. Weicksel.—p. 291.
Hemoclastic Crisis and Vegetative System. Hoff and Sievers.—p. 293.
Extracts for Turbidity Reaction. C. Stern.—p. 295.
Winter's Abortion Forceps. K. Fink.—p. 300.
Diagnosis of Position of Head. H. Baumm.—p. 301.
Fatal Acute Dilatation of Stomach. H. Schranz.—p. 303.
*Limits of Error in Hemogram. G. Ockel.—p. 304.
Effectual Brace for Lumbar Lordosis. K. Bragard.—p. 304.
Hysteria. H. Curschmann.—p. 305.
*Tuberculosis Welfare Work. J. E. Kayser-Petersen.—p. 307.
Physician and Gymnastics. O. Wiese.—p. 309.

Limits of Error in Hemogram.—Ockel found that the limits of error are very small when 200 cells are counted with Schilling's "Meander method." Even 100 cells are sufficient.

Tuberculosis Welfare Work.—Kayser-Petersen deals with the problems of control of tuberculosis. He agrees with those who consider practically every case of clinical tuberculosis as infectious. The elimination of the patient as a source of infection is the most important of all measures. His environment has to be examined and kept under supervision.

Wiener klinische Wochenschrift, Vienna

37: 231-254 (March 6) 1924

*Direct Culture of Tubercle Bacilli. E. Löwenstein.—p. 231.
Importance of Cell Permeability. Petersen and Jaffé.—p. 233.
*Anthrax Immunity. R. Kraus.—p. 236.
*Menopause and Fibroids. E. Graff.—p. 238.
Roentgen Diagnosis of Hodgkin's Disease. L. Freund.—p. 239.
*Ulcer and Motility of Stomach. T. Bársony.—p. 241.
Infectious Stomatitis. H. Glaser.—p. 243.
Medicine in America. K. F. Wenckebach.—p. 243. Conc'n.

Direct Cultivation of Tubercle Bacilli.—Löwenstein perfected with Sumyoshi a method which enables him to obtain excellent results with direct culture of tubercle bacilli from sputum and urine. They add a fivefold amount of 40 per cent. sulphuric acid or of 35 per cent. sodium hydroxid solution to the sputum, and wash the sediment three times. Then they inoculate it on glycerolized potato or an egg medium. They had positive results in every case in which the animal experiment was positive. Moreover, there were five instances among thirty-eight in which the bacilli were not pathogenic for guinea-pigs. He considers these bacilli as the avian type, and describes the clinical differences of such infections. They have a remarkable affinity for the hemopoietic organs (bone marrow) and occur with polycythemia and leukemia. He recommends the direct cultures as a routine method superior to animal experiment.

Anthrax Immunity.—Kraus infected sheep with anthrax bacilli. The bacilli kept their virulence if the dose was acutely lethal. If, however, the disease lasted for a few days, the virulence of the bacilli cultivated from such animals was lower. If the animals had been actively or passively immunized, the injected bacilli became avirulent or could not even be cultivated.

Menopause and Fibroids.—Graff found that many disturbances attributed to genital prolapse or fibroids are in reality signs of the beginning menopause. Surgery does not help these women. He recommends organotherapy.

Ulcer and Motility of Stomach.—Bársony found the pylorus open in cases of gastric ulcer outside of the pylorus region.

37: 255-280 (March 13) 1924

Dispensary for Psychotherapy. H. Kogerer.—p. 255.
*Thyroid Treatment of Nephrosis. D. Campanacci.—p. 257.
*Treatment of Anthrax. O. Grasser.—p. 261.
*Periodical Familial Cancer. H. Swoboda.—p. 263.
*Skin Resistance in Diathermy. J. Kowarschik.—p. 265.
*Immunity as a Reflex. R. Reitler.—p. 267.
Localization of Transverse Tears of Uterine Cervix. Tauber.—p. 270.
"Action of Roentgen Rays." F. Pordes.—p. 271.

Thyroid Treatment of Nephrosis.—Campanacci used thyroid extract treatment in three patients suffering from nephritis with dropsy but without retention of nitrogen. All three recovered. The ages were 3, 18 and 48.

Treatment of Anthrax.—Grasser had excellent results with neo-arsphenamin injections in anthrax. The temperature rose on the day of the injection, which had to be repeated, eventually, twice at two day intervals.

Periodic Familial Cancer.—Swoboda publishes the birth dates of a family of eight, three of whom developed cancer. Their birthdays were about seven years apart. He had found a similar seven year periodicity in the appearance of other hereditary features. It is also probable that the absence of cancer may be inherited in a similar way. This might be important for the prevention of malignant disease—at least in the second generation. He was able to predict the children with cleft palate in another family. While Mendel's law says, as a rule, nothing about the individual, this periodicity might be of actual value in eugenics.

Skin Resistance in Diathermy.—Kowarschik points out that the resistance of the skin is far less important in diathermy than in the application of the galvanic or faradic current. This makes the therapeutic deep penetration of heat possible.

Immunity as a Reflex.—Reitler induced stasis in the ear of rabbits, and then injected cultures of the colon bacilli or bacilli of the mesenteric group. He cut off the ear within three seconds after the injection. Nevertheless, the animals produced antibodies. Cocainization did not change the result, but injection of ether into the ear prevented the antibody formation.

Zeitschrift für Krebsforschung, Berlin

21: 109-196 (Feb. 23) 1924

*Distribution of Cancer. G. von Berencsy and K. von Wolff.—p. 109.
The Constitution and Cancer. J. Paulsen.—p. 119.
*Immunization with Attenuated Cancer Substance. W. Caspari.—p. 131.
Surface Tension in Cancer Extracts. Z. Kagan.—p. 155.
*Blood Phosphorus in Cancer. H. Zerner.—p. 157.
Action of Metal Salts on Cancer Extracts. M. Ascoli.—p. 160.
Metastases in Mice Cancer. K. Tadenuma and S. Okonogi.—p. 168.
Development of Cancer and of the Blood. C. S. Engel.—p. 173.

Prevalence of Cancer.—Berencsy and Wolff review the findings of 19,908 necropsies at one city hospital in Budapest in the last twenty years. They yield information in regard to the movement and distribution of cancer during this period. It is evident that gastric cancer has become less frequent in women, but that cancerous uterine affections exhibit an increasing tendency.

Immunization with Attenuated Tumor Substance.—Caspari's extensive experiments on animals prove that the attempt to immunize against cancer with an attenuated tumor substance reduces its immunizing power, while the toxic influence increases.

Blood Phosphorus in Cancer.—Zerner demonstrates that increase of the phosphorus content of the blood in doubtful cases is always suggestive of cancer.

Zeitschrift für Tuberkulose, Leipzig

39: 321-400 (Feb.) 1924

The Struggle Against Tuberculosis. K. W. Jötten.—p. 321.
Isolation of Tubercle Bacilli. Y. Sumiyoshi.—p. 333.
Instability of Colloids in the Serum. F. P. Tinozzi.—p. 338.
*Sedimentation Test in Tuberculosis. W. Raykowski.—p. 343.
Passive Transmission of Tuberculin Sensitivity. E. Hoke and Lang.—p. 352.

Sedimentation Test in Tuberculosis.—Raykowski records the results of his clinical investigations on the reliability of the speed of sedimentation of the blood cells in tuberculosis. He found mostly a satisfactory parallelism between the clinical data and this laboratory test. The greater the speed of sedimentation, the more advanced the tuberculous process proved.

Zentralblatt für Chirurgie, Leipzig

51: 257-300 (Feb. 16) 1924

Bone Transplants and Failure to Heal. E. Lexer.—p. 258.
Spondylitis Deformans in Ancient Times. H. Coenen.—p. 259.
*Irradiation of Breast Cancer. Lehmann.—p. 262. Id. Perthes.—p. 264.
Struma Metastasis in the Liver. E. Keppeler.—p. 265.
Technic of Resection of Cervical Sympathetic. Flörcken.—p. 267.
*Acute Pancreatitis with Fat Necrosis. Oehler.—p. 269.
Acute Gastric Dilatation. A. Wagner.—p. 271.
Multipronged Wound Clamps. E. Glass.—p. 276.

Postoperative, Prophylactic Irradiation of Cancer of the Breast.—Lehmann refers to the discussions at the surgical congress in 1920 and again in 1921, in regard to the value of postoperative, prophylactic irradiation of cancer of the breast. Many widely divergent views were expressed. He now reports freedom from recurrence of 55 per cent. in ninety-six cases after three years, and 39 per cent. in seventy-five cases after five years, as compared with 32 per cent. and 28 per cent. in his cases in which postoperative irradiation was omitted. When intensive postoperative irradiation was employed he had 47 per cent. of recurrences the first year—as many as in the nonirradiated cases. . . . Perthes comments that intensive penetrating irradiation of large areas is injurious, but that repeated postoperative irradiation with a mild dosage, at proper intervals, may be regarded as beneficial.

Acute Pancreatitis with Fat Necrosis.—Oehler reports a succession of six cases of acute or subacute pancreatitis with fat necrosis (three cases within six days), and queries whether similar observations have been made elsewhere. In five of the six cases the diagnosis had been "gallstone disease," and in one "ileus." In all there was sensitiveness to pressure in the gallbladder region, and extending far over to the left side. The severe attacks of pain could not be checked by morphin, and the general condition was worse than in ordinary gallstone attacks. There was no sugar in the urine. Operation revealed in two cases entirely normal conditions in the gallbladder; in the others inflammation of the gallbladder with or without stones. The spots of fat necrosis were found in all these cases only in the immediate vicinity of the pancreas, in the hepatogastric ligament and in the mesocolon. The pancreas was swollen, hard, and infiltrated with blood. It was exposed, a tampon inserted, and the gallbladder was drained or extirpated and the cystic duct drained. All five patients have recovered or are on the way to recovery.

51: 301-328 (Feb. 23) 1924

Cystic Tumor of Popliteal Nerve Sheath. Hilgenreiner.—p. 301.
Prepyloric Ulcer on Site of Silk Suture. Propping.—p. 304.
*Blood Platelets and Malignant Tumors. B. N. Rosenbaum.—p. 305.
Payr's Pepsin-Pregl Solution in Animal Experiments. Pitzen.—p. 308.
Primary Suture of Compound Fracture of Patella, with Use of Phenolated Camphor. Kosters.—p. 310.
Sacral Novocain Injection in Tetanus. F. Mandl.—p. 312.
A Cystoscope Sterilizable by Boiling. E. Joseph.—p. 318.

Blood Platelets and Malignant Tumors.—Rosenbaum found in twenty-five cases of malignant tumors, nineteen with a marked increase of blood platelets and six with a normal number. There were many giant forms and he thinks that the presence of giant blood platelets may be utilized to strengthen a doubtful diagnosis of malignant tumor.

51: 373-416 (March 8) 1924

*Hemorrhage of the Corpus Luteum. E. Eick.—p. 374.
Surgical Treatment of Pyloric Ulcer. W. Förster.—p. 376.
Silk Threads and Jejunal Ulcers. H. Hilarowicz.—p. 379.
*Spontaneous Hematoma of the Abdominal Wall. S. v. Renner.—p. 380.
Improved Technic for Suture in Tiers. H. Krüger.—p. 382.
Flatfoot Disturbances Without Flatfoot. A. Schanz.—p. 384.
Surgery of Pes Cavus. M. Hackenbroch.—p. 386.
Surgery of Habitual Shoulder Luxation. K. Hofmann.—p. 388.
Operation for Varicocele. E. Kutscha-Lissberg.—p. 390.

Hemorrhage of the Corpus Luteum.—Eick warns against mistaking a corpus luteum hemorrhage for an appendicitis attack. But immediate intervention is indicated in either case.

Spontaneous Hematoma of the Abdominal Wall.—An elderly woman came to Renner with violent abdominal pains

and a bluish discoloration below the navel. Two physicians previously consulted had suspected an intra-abdominal lesion. The operation disclosed a hematoma beneath the right rectus muscle and extensive suggillation in the peritoneum. There was no history of pregnancy, syphilis or abuse of alcohol, and Renner ascribes the extravasation to arteriosclerosis. The patient recovered after the operation.

Zentralblatt für Gynäkologie, Leipzig

48: 517-560 (March 1) 1924

*Criminal Abortions. Reifferscheid.—p. 518. Idem. Hirsch.—p. 519.
Air Embolism from Uterine Veins. I. Amreich.—p. 521.
Gas Production in the Pregnant Uterus. F. Lingemann.—p. 529.
Development of Superficial Papillomas. E. Stübler.—p. 532.
*Intra-Uterine Pessaries. H. Kritzler.—p. 534.
The So-Called Chaletzky-Neumann Cells. H. Hinselmann.—p. 537.
Rare Recurrences After Cancer Operations. Penkert.—p. 538.

Repression of Criminal Abortions.—Hirsch holds that it is wise to be lenient with the mothers who have been entangled in a criminal abortion. By this means it might be more probable to obtain information from them concerning the real culprit, the abortionist. But, on the other hand, women unlawfully operated on display a decided tendency to decline giving any information for the purpose of identifying the midwife involved. Thus leniency would seldom have the desired effect.

Intra-Uterine Pessary and Extra-Uterine Gestation.—Kritzler calls attention to the fact that owing to their irritating action on the mucosa, intra-uterine pessaries are very liable to be a cause of extra-uterine gestation. The stiff pessaries seem to be even more deleterious than those of soft silkworm gut.

48: 561-604 (March 8) 1924

Primary Tubal Cancer. G. Beck.—p. 562.
Treatment of Asphyxia Pallida in the New-Born. M. Schütt.—p. 564.
Rupture of the Umbilical Cord. F. Lönne.—p. 565.
Skull Anomalies in the New-Born. H. O. Neumann.—p. 571.
Treatment of Abortion. F. Jaeger.—p. 576.
*Ossification in the Round Ligament. D. Calzavara.—p. 579.
Vagina Duplex with Uterus Simplex. A. Gross.—p. 582.

Ossification in the Round Ligament.—Calzavara ascribes the ossification discovered at necropsy to a primary tuberculous necrosis, although tubercle bacilli could not be identified.

Casopis lekaruv ceskych, Prague

63: 401-436 (March 8) 1924

*Signs of Appendicitis in Infectious Diseases. V. Vysin.—p. 401.
*Action of Foreign Proteins After Insulin. J. A. Sefcik.—p. 405.
*Past-Pointing in Peripheral Anesthesia. Precechtel.—p. 408.
Local and General Immunity. R. Kimla.—p. 411.
Treatment of Puerperal Fever. G. Bazala.—p. 418.

Symptoms of Appendicitis in Infectious Diseases.—Vysin observed two children who had been operated on for appendicitis, on account of pains, in the beginning of scarlet fever. The wound suppurated in both cases, though the appendix was only slightly affected. The operation is not as dangerous in eruptive diseases as in a beginning pneumonia. With this, there may be no distinct pulmonary symptoms present, while the patient locates the pain in the ileocecal region.

Action of Foreign Proteins After Insulin.—Sefcik found that injections of foreign proteins had a slight antagonistic action on the insulin hypoglycemia.

Past-Pointing in Peripheral Anesthesia.—Precechtel stimulated the sensory nerves of the head by application of ethyl chlorid. He produced by this method the past-pointing reaction. He was able to suppress the reaction by anesthetizing any one of the sensory nerves of the head or neck. A diaschisis in the region of Deiters' nucleus is the most probable explanation.

Acta Chirurgica Scandinavica, Stockholm

56: 403-496, 1924

Two Cases of Osteosarcoma. E. Tengwall.—p. 403.
*A Case of Embolectomy. S. Lundberg.—p. 412.
Cancer of the Duodeno-Jejunal Flexure. S. Lundberg.—p. 417.
Technic for Applying a Plaster Bandage on the Lower Extremity. E. Landelius.—p. 425.
A Successful Embolectomy. E. Michaelsson.—p. 431.
Cyst in Common Bile Duct. G. Bohmansson.—p. 440.
Loose Bodies in the Knee-Joint. E. Perman.—p. 445.
*Tuberculous Kyphosis. H. Waldenström.—p. 462.

A Case of Embolectomy.—Lundberg reports the case of a woman who developed after a hernia operation an embolus in one femoral artery. The embolus was dislodged by dissecting out the femoral artery. This acted somewhat in the sense of a partial sympathectomy, and the embolus slipped down to the popliteal, fully reestablishing the circulation, after its removal, more than nineteen hours after the first symptoms.

Treatment of Tuberculous Kyphosis.—Waldenström's treatment of tuberculous kyphosis consists in gradual complete correction, by application of pressure, and subsequent fixation of the diseased segment of the spine with an Albee implant from the tibia. He has treated eighty patients according to this method in the last ten years, and even in children younger than 15 years he secured very favorable results, although tuberculous destruction is usually more pronounced in the young. In 80 per cent. he records recovery, with excellent functional results and no apparent deformity.

Finska Läkaresällskapets Handlingar, Helsingfors

66: 1-152 (Feb.) 1924

Bone Cysts and Giant Cell Tumors on Basis of Local Fibrous Osteitis. A. Krogius.—p. 1.
Treatment of Adnexitis with "Ultra-Sun." E. Sillman-Lönnroth.—p. 20.
*Treatment of Spontaneous Pneumothorax. Fogelberg and Wallgren.—p. 38.
Treatment of Varices. H. Bardy.—p. 47.
Function of the Otolith Apparatus. F. Leiri.—p. 53.
Blood Sugar with Articular Rheumatism. O. Heisti.—p. 78. Cont'd.
Nephritis from Dental Focus. P. Gadd.—p. 111.
*Shoulder Pain with Tubal Pregnancy. O. E. Cederberg.—p. 116.
Myoma in Abdominal Wall. T. Sandelin.—p. 123.

Glucose Treatment of Spontaneous Pneumothorax.—Fogelberg and Wallgren had occasion to apply in two cases Spengler's method of intrapleural injection of a 30 per cent. solution of glucose in treatment of persisting spontaneous pneumothorax without effusion. An effusion formed in the pleura, and in less than two months the lung had regained normal expansion in the youth of 16, and there has been no recurrence of the pneumothorax during the nine months to date. Before that the pneumothorax had returned several times, compressing the left lung completely. In a second case, by the sixth day after injection of 24 c.c. of the sugar solution, the pneumothorax was much reduced, and there was no further trace of air by the end of the month. An exploratory puncture revealed effusion also in this case.

Shoulder Pain with Pathologic Processes in the Pelvis.—Cederberg has observed the typical pain in the shoulder in sixteen cases of acute pelvic affections, mostly ruptured tubal pregnancy. He describes four cases in detail and one case of rupture of the inflamed bladder. The pains in the shoulder are not inevitably on the same side.

Norsk Magazin for Lægevidenskaben, Christiania

85: 185-272 (March) 1924

*Chronic Empyema in the Pleura. E. Murstad.—p. 185.
*Gastric Sarcoma. E. F. Lindboe.—p. 205.
*Embolism in Renal Artery. P. Bull.—p. 212.
Tachypnea After Epidemic Encephalitis. K. Motzfeldt.—p. 225.
Outline of Treatment of Pulmonary Tuberculosis. C. Hambro.—p. 228.

Chronic Empyema of the Pleura.—In 28 nontuberculous cases, a foreign body, drain tube or sequester of bone, explained the chronic course; in some others the opening had not been low enough to drain effectually, but in the majority, the refusal to heal was ascribed to incorrect after-care. In 12 cases of tuberculous empyema, only 5 of the patients are still living. No operation was attempted in 2 of the cases. In puncturing, it is important to keep within the area of a contemplated thoracoplasty.

Sarcoma of the Stomach.—Lindboe gives a profusely illustrated description of the primary gastric sarcomas he removed from two men in 1922. One had no further disturbances but was shot fifteen months later; there was recurrence after a year in the other case.

Embolism in Renal Artery.—The kidney was removed on the correct diagnosis of embolism, but the woman died the sixteenth day, and a large thrombus was found in the mitral orifice.